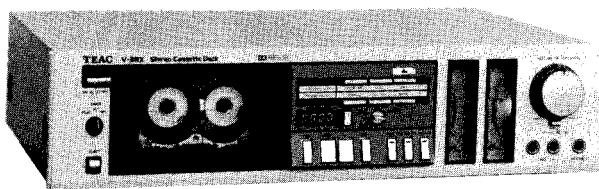


**TEAC**<sup>®</sup>



**SERVICE MANUAL**

**V-3RX/V-5RX**

**Stereo Cassette Deck**

# 1 SPECIFICATIONS AND SERVICE DATA

**Notes:**

1. Improvements may result in changes in specifications and service data.
2. 0 dB is referenced to 0.775 V in this manual.

## SPECIFICATIONS

<b>Track system</b>	4-track, 2-channel stereo
<b>Heads</b>	2: Erase, record/playback
<b>Type of tape</b>	Cassette tape, C-60 and C-90 (Philips type)
<b>Tape speed</b>	4.76 cm/s (1-7/8 ips)
<b>Input (level and impedance)</b>	
<b>MIC:</b>	Specified input level: -57 dB (1.09 mV)/10 kohms Minimum input level: -67 dB (346 µV)
<b>LINE IN:</b>	Specified input level: -9 dB (275 mV)/50 kohms Minimum input level: -19 dB (86.9 mV)
<b>Output (level and impedance)</b>	
<b>OUTPUT:</b>	Specified output level: -5 dB (436 mV)/50 kohms
<b>PHONES:</b>	Specified output level: -18 dB (97.5 mV)/8 ohms
<b>Equalization</b>	
<b>METAL:</b>	3180 µs + 70 µs
<b>Co (CrO<sub>2</sub>):</b>	3180 µs + 70 µs
<b>NORMAL:</b>	3180 µs + 120 µs
<b>Head configuration</b>	
1/2-track, 1-channel erase head	
1/4-track, 2-channel record/playback head	
<b>Motors</b>	
1 DC servo motor (for capstan drive)	
1 DC motor (for reel drive)	
1 DC motor (for ancillary control)	
<b>Bias frequency</b>	100 kHz ± 5 kHz
<b>Operation position</b>	Horizontal
<b>Power requirements</b>	
100/120/220/240 V AC, 50/60 Hz, 17 W, 15 W for V-5RX (General export)	
120 V AC, 60 Hz, 17 W, 15 W for V-5RX (U.S.A./Canada)	
220 V AC, 50 Hz, 17 W, 15 W for V-5RX (Europe)	
240 V AC, 50 Hz, 17 W, 15 W for V-5RX (U.K./Australia)	
<b>Weight</b>	6.0 kg (13-4/16 lbs.) net
<b>Dimensions</b>	See Fig. 2-2

## SERVICE DATA

### MECHANICAL

<b>Tape speed deviation</b>	3,000 Hz ± 70 Hz
<b>Tape speed drift</b>	70 Hz
<b>Wow and flutter</b>	
<b>Playback:</b>	0.06% (WRMS)
<b>Record/playback:</b>	0.25% (RMS)
<b>Pinch roller pressure</b>	400 g to 490 g (14.1 oz to 17.3 oz.)
<b>Reel Torque</b>	
<b>Take-up:</b>	50 to 65 g-cm (0.69 to 0.90 oz-inch)
<b>Supply:</b>	1.5 to 3 g-cm (0.021 to 0.042 oz-inch)
<b>F.F.:</b>	More than 55 g-cm (0.76 oz-inch)
<b>REW:</b>	80 to 150 g-cm (1.1 to 2.1 oz-inch)
<b>Fast winding time</b>	
	85 seconds for MTT-501 (C-60)

### ELECTRICAL

<b>Frequency response</b>	
	See Figs. 5-5 and 5-7 to 5-9.
<b>Signal-to-noise ratio</b>	
<b>Playback:</b>	NORMAL: 46 dB min.
<b>Overall:</b>	METAL, Co (CrO <sub>2</sub> ): 45 dB min. NORMAL: 44 dB min.
<b>Erase efficiency</b>	65 dB min. at 1 kHz (measured with input 10 dB higher than the specified input level)
<b>Channel separation</b>	30 dB min. at 1 kHz
<b>Adjacent track crosstalk</b>	40 dB min. at 125 Hz
<b>Total harmonic distortion</b>	2.2% or less with METAL and Co (CrO <sub>2</sub> ) tapes 2.0% or less with NORMAL tape

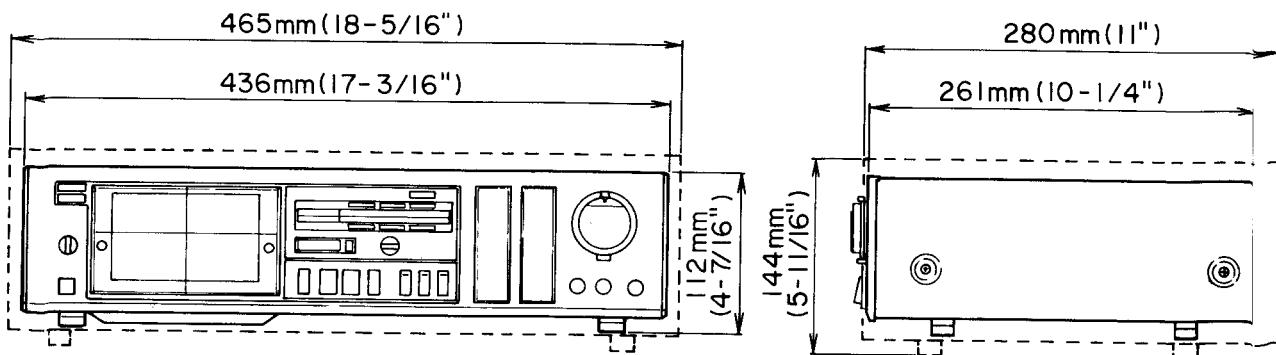
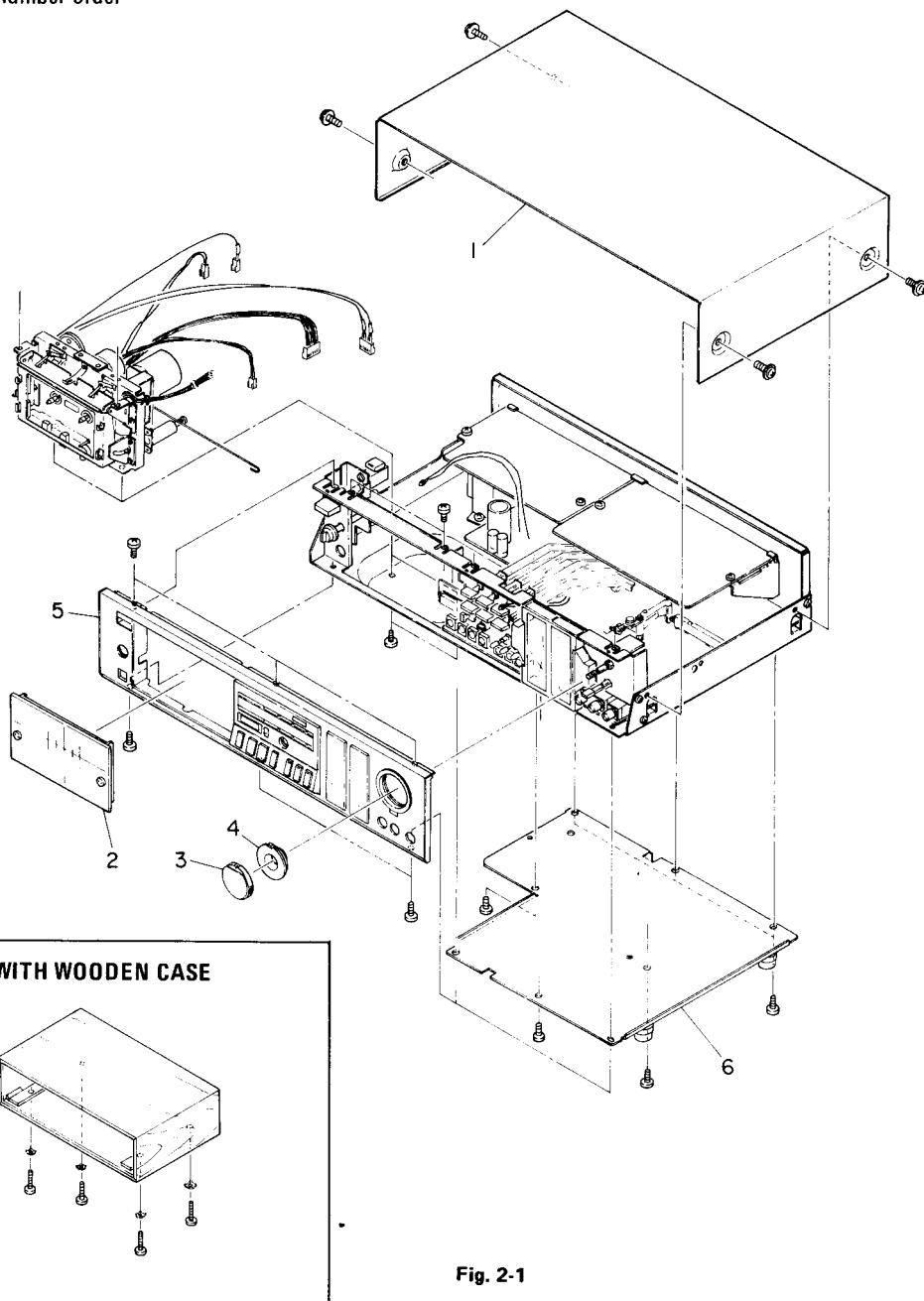
### CAUTION

⚠ Parts marked with this sign are safety critical components. They must always be replaced with identical components — refer to the appropriate parts list and ensure exact replacement.

- Dolby Noise Reduction System manufactured under license from Dolby Laboratories Licensing Corporation.  
“Dolby” and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.
- dbx Noise Reduction System made under license from dbx, Incorporated. The name “dbx” and the dbx symbol are trademarks of dbx, Incorporated.

## 2 CASE AND FRONT PANEL REMOVAL

Disassemble in number-order



Broken line indicates some General Export models.

Fig. 2-2 Dimensions

### 3 PARTS LOCATION

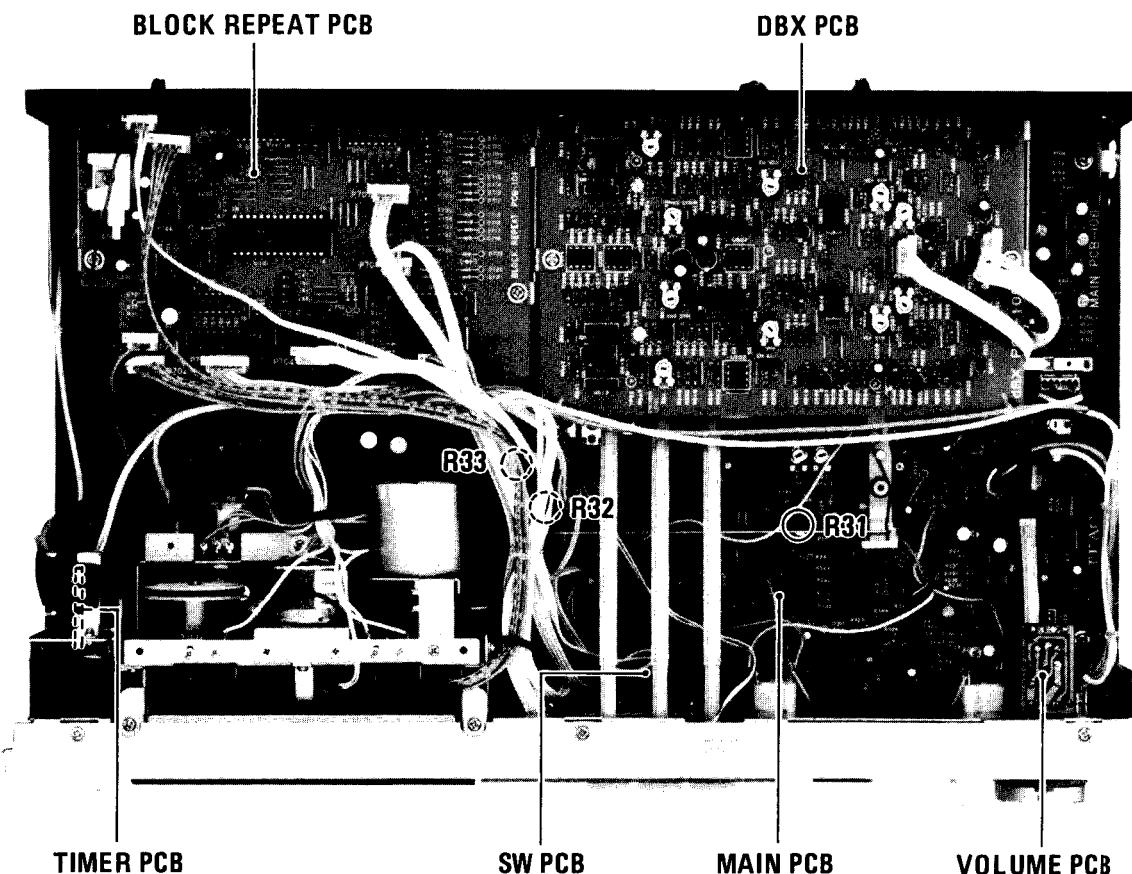


Fig. 3-1 Top view

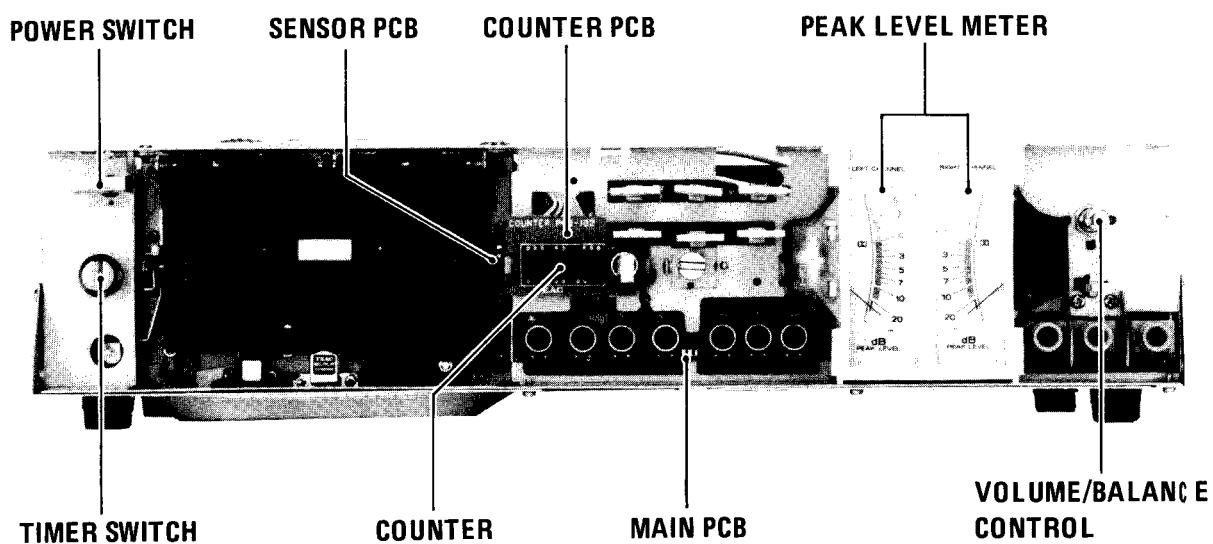
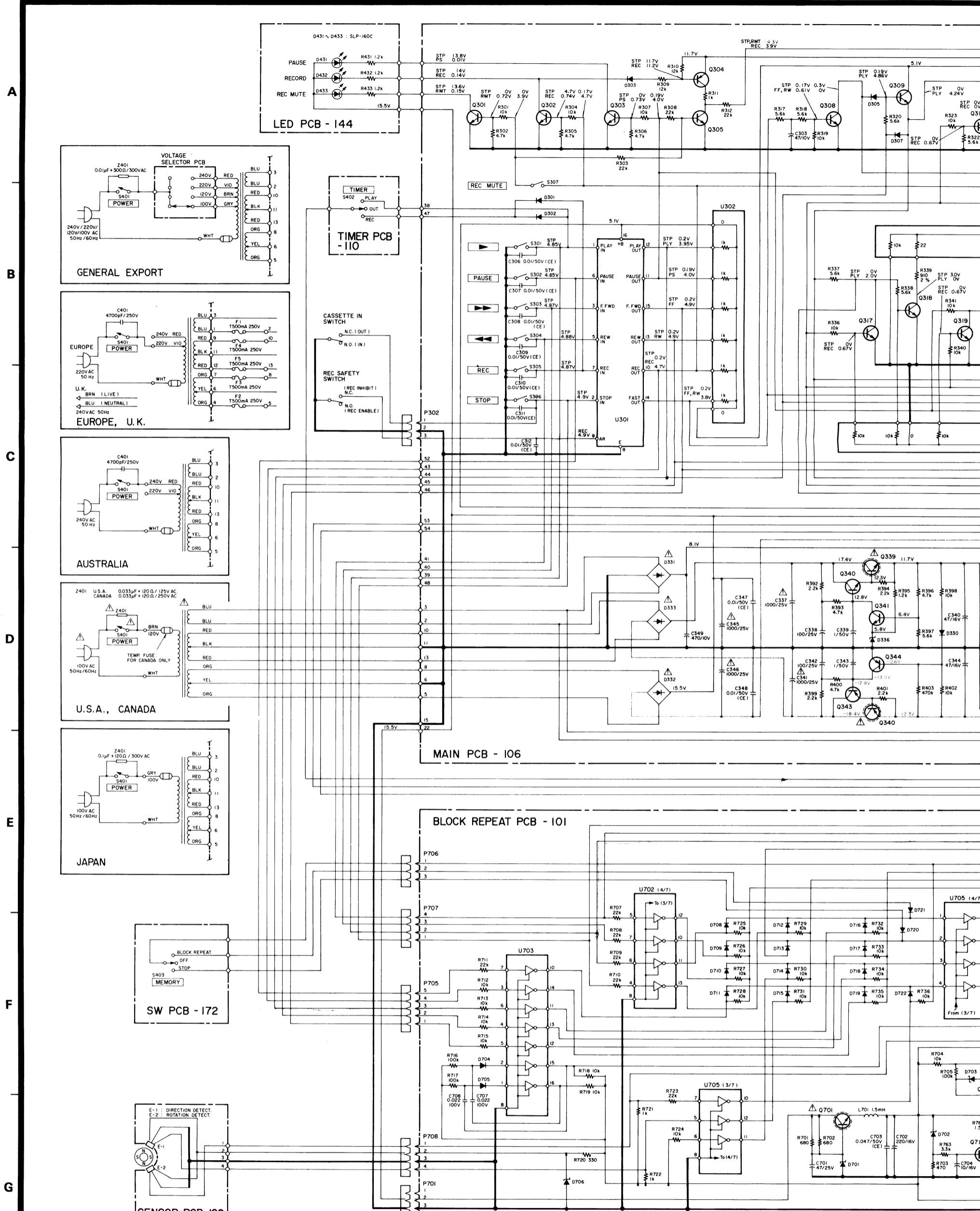


Fig. 3-2 Front view



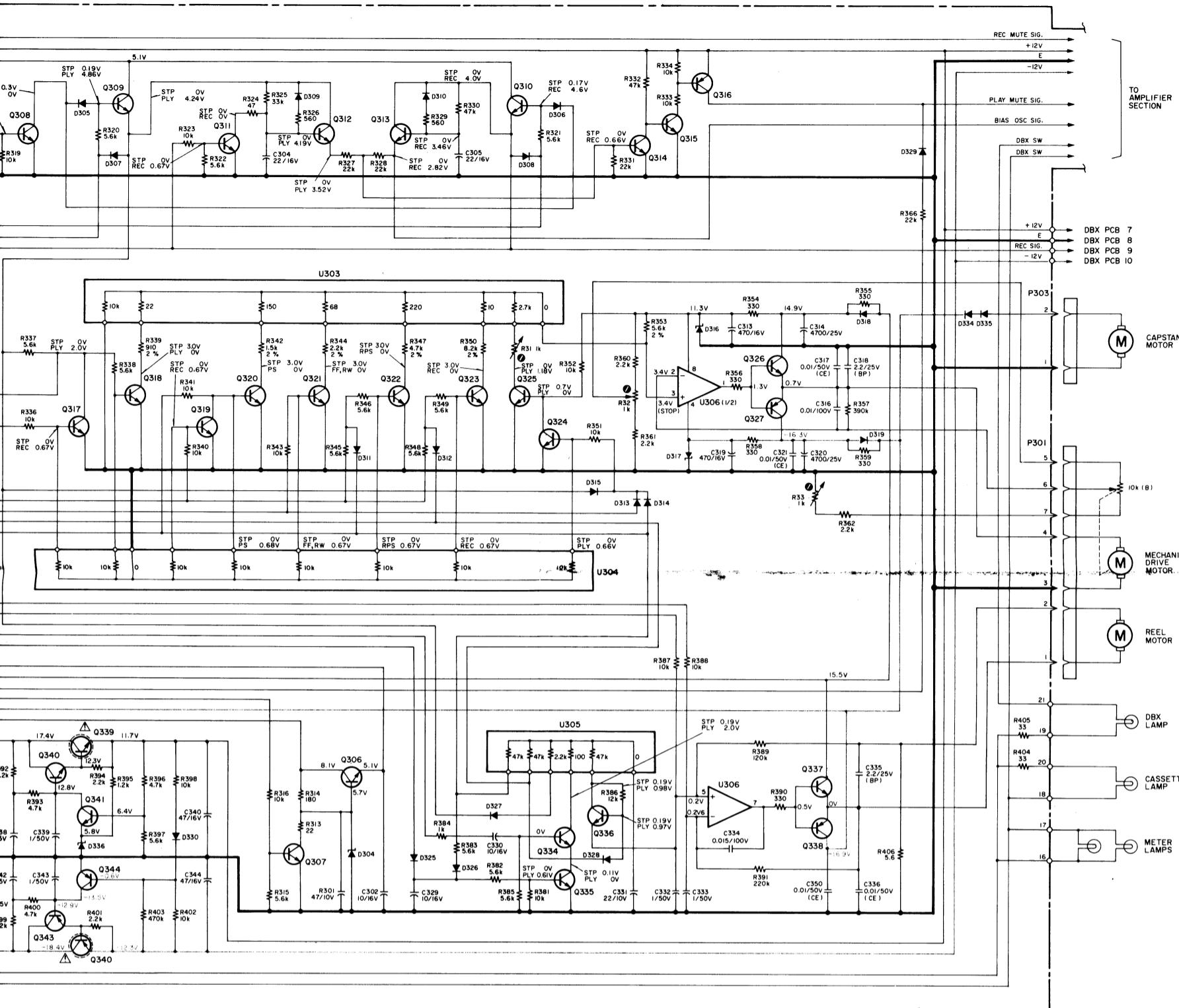
- NOTES**

  1. All resistors are  $\frac{1}{4}$  watt,  $\pm 5\%$ , unless otherwise noted.  
Resistor values are in ohms ( $k=1,000$  ohms).
  2. All capacitor values are in microfarads.  
(CE): Ceramic  
(SC): Polystyrene  
(BP): Bipolar  
All non-polarized capacitors are  $\pm 5\%$  Mylar unless otherwise noted.
  3. Each voltage value shown above is the one measured in STOP position unless specified as follows.  
PLY : PLAY PS : PAUSE  
REC : RECORD RPS : RECPAUSE RMT : REC MUTE  
FF : FAST FORWARD RW : REWIND

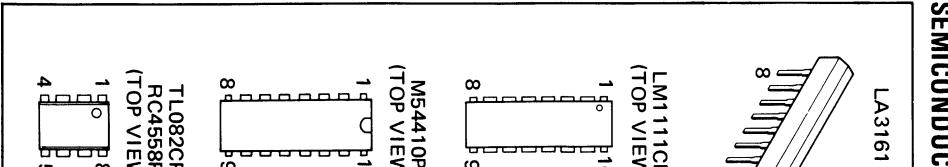
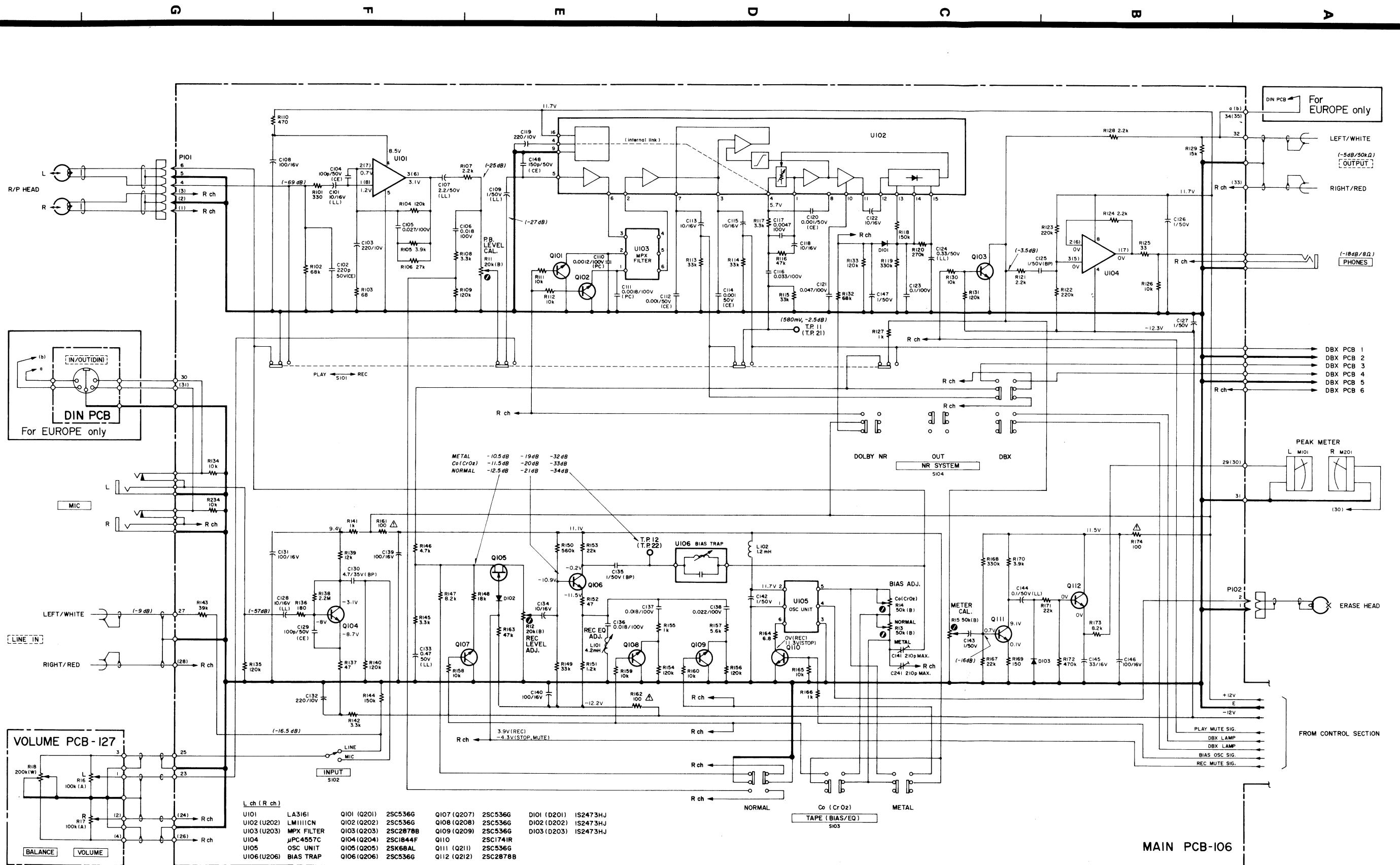
4.  Parts marked with this sign are safety critical components.  
They must always be replaced with identical components - refer  
the appropriate parts list and ensure exact replacement.
  5.  : Front panel indication
  6.  : +B power supply circuit
  7.  : -B power supply circuit

## MAIN PCB - IO6

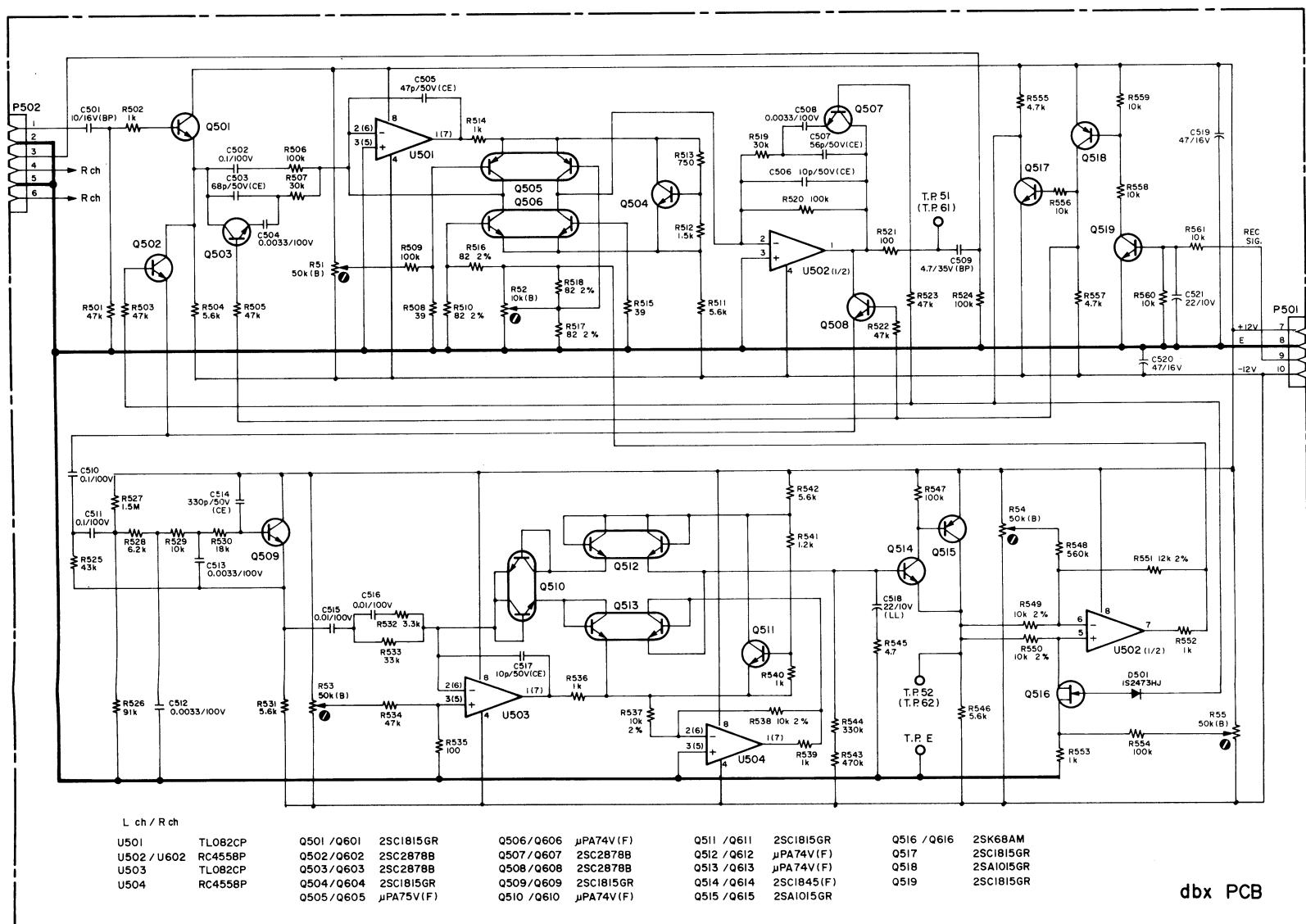
U301	MS441OP
U302	O1-0186
U303	O1-0187
U304	O1-0188
U305	O1-0310
U306	JPC4557C
Q301 ~ Q303	2SC945AK
Q304	2SA105GR
Q305	2SC945AK
Q306	2SC2655Y
Q307	2SC174IR
Q308 ~ Q315	2SC945AK
Q316	2SA105GR
Q317 ~ Q325	2SC945AK
Q326	2SC2655Y
Q327	2SA1020Y
Q328 ~ Q333	(Not used)
Q334 ~ Q336	2SC945AK
Q337	2SC2655Y
Q338	2SA1020Y
Q339	2SD31F
Q340 , Q341	2SC945AK
Q342	2SB507E
Q343 , Q344	2SA105GR
D301 ~ D303	IS2473HJ
D304	GAZ-5.6U
D305 ~ D310	IS2473HU
D311 , D312	0A90R
D313 ~ D315	IS2473HU
D316 , D317	GZA-IIU
D318 , D319	IR5BZ6I
D320 , D321	(Not used)
D322 ~ D330	IS2473HU
D331	DBA-10C
D332	W02
D333	DBA-10C
D334 , D335	W03C
D336	GZA-6.2L



# TEAC SCHEMATIC DIAGRAM (AMPLIFIER) V-3RX



SEMICONDUCTOR

**NOTES**

- Schematic diagram shown for left channel unless otherwise noted. Numbers in parenthesis indicate right channel terminals.
  - All resistors are  $\frac{1}{2}$  W,  $\pm 5\%$ , unless otherwise noted.
  - Resistor values are in ohms ( $k=1,000$  ohms,  $M=1,000,000$  ohms).
  - Capacitor values are in microfarads (p=picofarads).
- (LL) : Electrolytic capacitor LL series  
 (CE) : Ceramic  
 (PC) : Polypro.  
 (BP) : Bipolar
- All non-polarized capacitors are  $\pm 5\%$  Mylar unless otherwise noted.

- Parts marked with this sign are safety critical components. They must always be replaced with identical components - refer to the appropriate parts list and ensure exact replacement.
- Voltage and level values are for reference only.
- 0 dB = 0.775V
- : Front panel indication
- : Rear panel indication
- : +B power supply circuit
- : -B power supply circuit

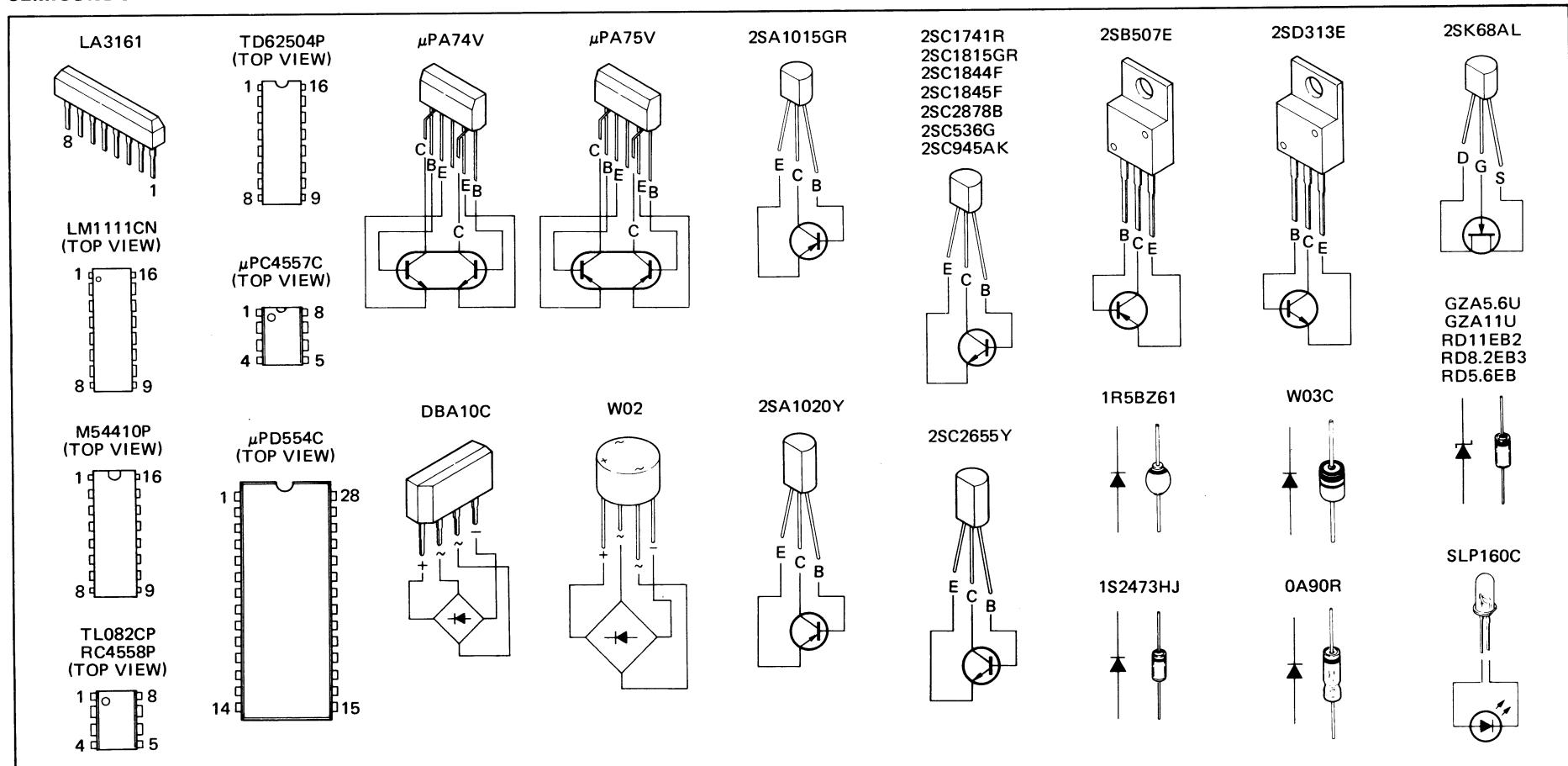
**SEMICONDUCTOR ELECTRODES**



Fig. 3-3 Transport front view

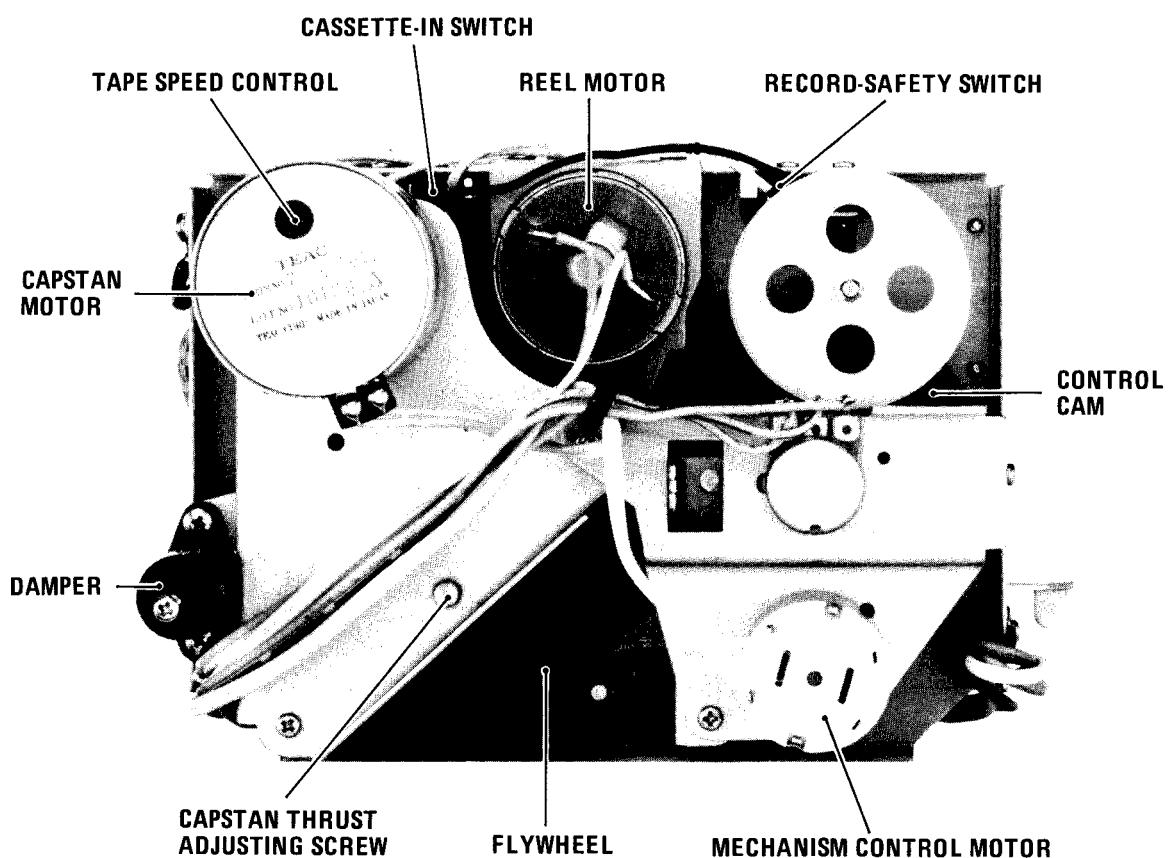


Fig. 3-4 Transport rear view

## 4 MECHANICAL ADJUSTMENT AND CHECKS

### 4-1 CAPSTAN ASSEMBLY THRUST

- Turn the thrust adjusting screw so that thrust of the capstan shaft is from 0.1 mm to 0.2 mm. For the thrust adjusting screw location, see Fig. 3-4.

### 4-2 CASSETTE HOLDER

- Adjust the holder guide plate position so that when the cassette holder in which the cassette tape is loaded is closed, the parallel condition shown in Fig. 4-1 is obtained.

Viewed from right side

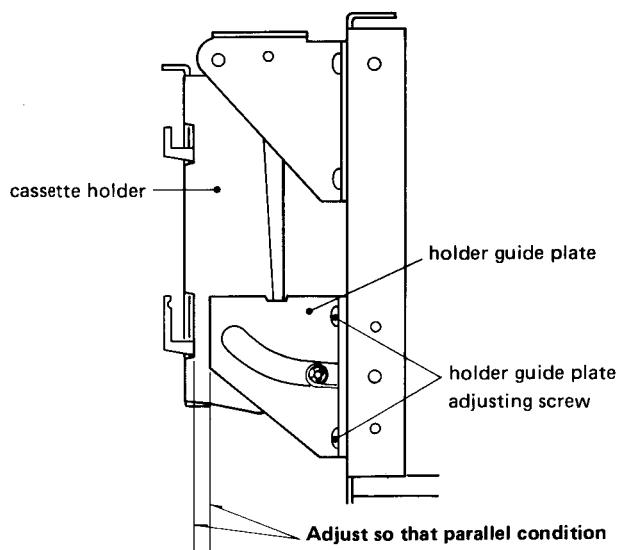


Fig. 4-1

### 4-3 DAMPER ADJUSTMENT

- Load a C-60 tape and close the cassette holder.
- Turn the air adjusting screw so that after pushing the EJECT button, the cassette holder opens completely, taking 0.5 to 1.5 seconds.

**Note:** Be careful not to turn the screw beyond permissible adjustment limit shown in Fig. 4-2.

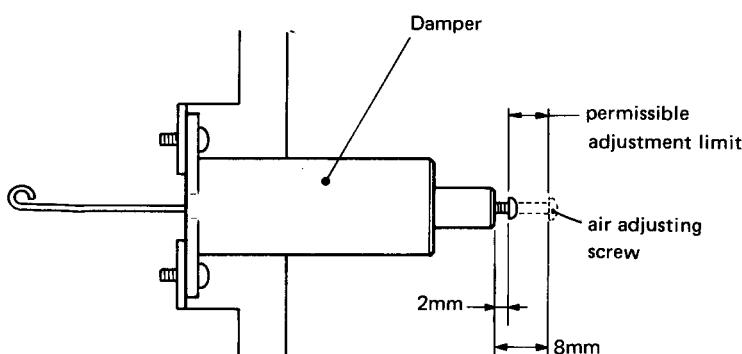


Fig. 4-2

### 4-4 MICRO SWITCH

- Load any standard cassette and close the cassette holder.
- Adjust mounting position of two micro switches, cassette-in switch and record safety switch, so that the actuator position is in the setting range shown by Fig. 4-3.

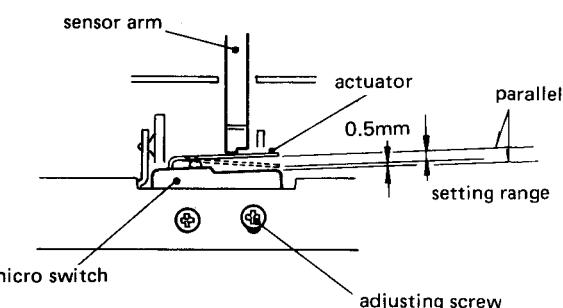


Fig. 4-3

### 4-5 CONTROL CAM

**Note:** For adjustor (R31, R32, R33) locations, see Fig. 3-1.

- Load any cassette tape with the appropriate record-protect tab attached.
- Push PLAY (▶) button together with REC button, then check that the center of marker ① coincides with position indicator of the reel motor mounting plate. If not, adjust by using R32.
- After pushing STOP button, depress the PLAY button. Then check that the center of marker ⑥ agrees with the indicator. R33 is provided for this adjustment.
- Pushing the STOP button, check that the center of marker ③ coincides with the indicator as shown in Fig. 4-4. R31 is for this adjustment.
- Check that when in REC/PAUSE mode the indicator is within range of marker ②.
- In the same way as above, check the following.  
F. FWD and REW modes: marker ④.  
PLAY/PAUSE mode: marker ⑤.

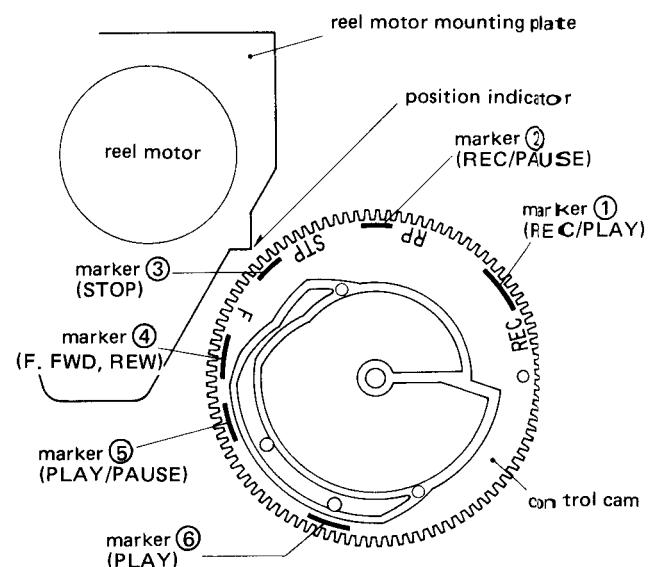


Fig. 4-4 Control cam positioning

#### 4-6 PINCH ROLLER PRESSURE

- With the cassette holder shut and no tape loaded, put the deck in play mode after pushing the cassette-in switch sensor arm upwards and holding it.
- Hook a spring scale on the pinch roller assembly, as shown in the illustration.
- Pull the scale down until there is sufficient force to separate the pinch roller from the capstan shaft.
- Ease pressure until the pinch roller makes just enough contact with the capstan shaft so that the pinch roller just begins to turn. At this point, note the reading on the scale. It should be from 400 g to 490 g (14.1 oz. to 17.3 oz.)

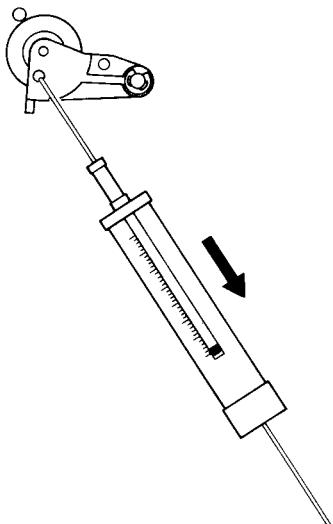


Fig. 4-5

#### 4-7 REEL TORQUE

- Load the cassette torque meter on the deck and read the pointer indication on the dial scale for each tape transport operation. The measured torque should be within the following values:
  - Take-up: 50 to 65 g-cm (0.69 to 0.90 oz-inch)
  - Supply: 1.5 to 3 g-cm (0.021 to 0.042 oz-inch)
  - F.F.: More than 55 g-cm (0.76 oz-inch)
  - REW: 80 to 150 g-cm (1.1 to 2.1 oz-inch)
- Take-up torque may be adjusted if required. Within the take-up reel table you will notice three small "teeth" located at 120° around the hub and one marker "tooth" on the periphery. Torque is adjusted by pushing and slightly lifting the "tooth" **(A)** on the ramp\* near the marker up or down. The ramps are like a three step stairway. Maximum torque is when the teeth sit on the highest steps.

\* This ramp has catches on each step.

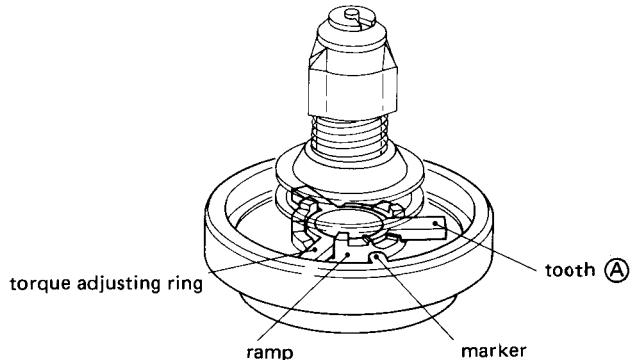


Fig. 4-6 Take-up reel table

#### 4-8 TAPE SPEED

- Connect a frequency counter to the deck as shown in Fig. 4-7.
- Play a tape for more than five minutes to warm up the deck, then load a TEAC MTT-111 test tape containing a 3000-Hz test tone and play the test tape from the beginning.
- While the tape is playing, use a common slotted screwdriver with the handle completely insulated from the blade, and adjust the control on the capstan motor (see Fig. 3-4) for a reading of 3015 to 3025 Hz on the frequency counter.
- Play the tape at the beginning and at the end, and check that the speed deviation is within the prescribed limits by observing that the reading on the frequency counter never deviates more than  $\pm 70$  Hz from 3000 Hz, nor drifts more than 70 Hz at any given time.

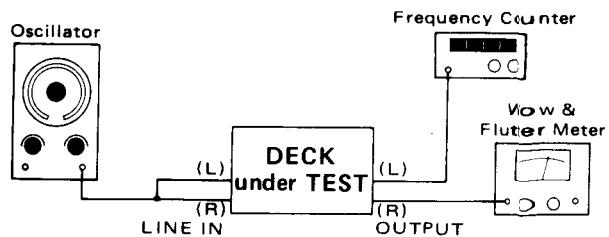


Fig. 4-7

#### 4-9 WOW AND FLUTTER

**Note:** These measurements should be made at the beginning, middle, and the end of the tape.

- PLAYBACK
  - Connect a wow-and-flutter meter to the deck as shown in Fig. 4-7.
  - Load and play a TEAC MTT-111 test tape.
  - Check that the reading on the wow-and-flutter meter is within 0.06% (WRMS).
- RECORD/PLAYBACK
  - Load a TEAC MTT-501 test tape (blank) and record a 3000-Hz signal.
  - Rewind the tape to the beginning of the recorded section, and play it.
  - The wow and flutter should not be more than 0.25% (IAMS).

## 4-10 SENSOR PCB ASSEMBLY

1. Adjust by moving the SENSOR PCB assembly so that the clearance shown in Fig. 4-8 is 0.3 ~ 0.5 mm.
2. Be careful not to change only the position of the HALL IC when making this adjustment.

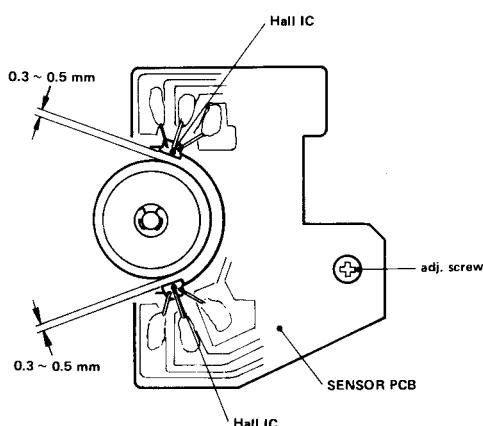


Fig. 4-8

## 4-11 LUBRICATION

Lubrication is only required when parts are replaced. For this purpose, use the oil and grease specified below.

**Oil:** TEAC spindle oil (from TEAC TZ-255 oil kit),  
Mobil D.T.E. Oil Light, or equivalent

**Grease:** ORE-LUBE G1/3 or equivalent

1. Apply a drop of oil with an oil applicator to a point about 1/3 the way down the shaft (from the free end) of the flywheel, then insert the shaft into the capstan housing.
2. Apply a suitable amount of light grease to the well of the flywheel bearing.

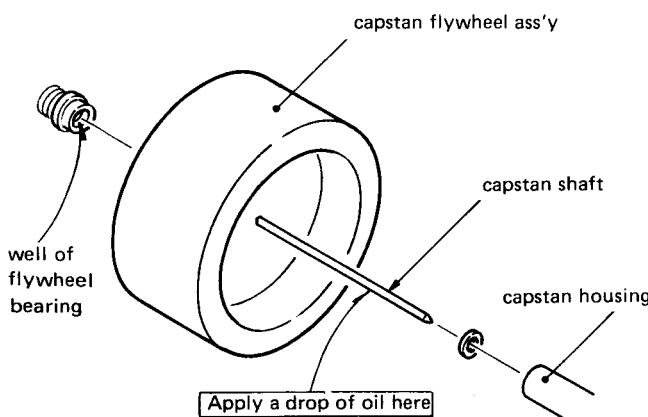


Fig. 4-9

## 4-12 VOLTAGE SELECTION

### (FOR GENERAL EXPORT MODELS)

1. Always disconnect the power line cord before making these adjustments.
2. Remove the top cover of the deck by removing the screws from the sides.
3. Locate the voltage selector, shown in the illustration (near the power transformer).
4. Loosen the two screws in the jumper bar and move the bar so that it jumpers the opposing terminals marked with the required voltage (100, 120, 220 or 240).
5. Retighten the screws and replace the top cover.

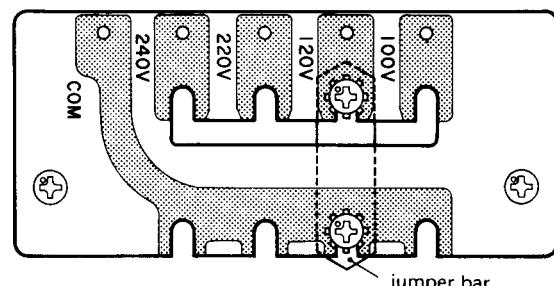


Fig. 4-10

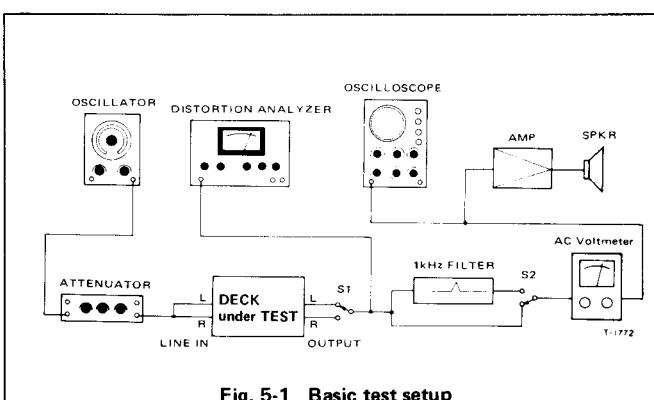


Fig. 5-1 Basic test setup

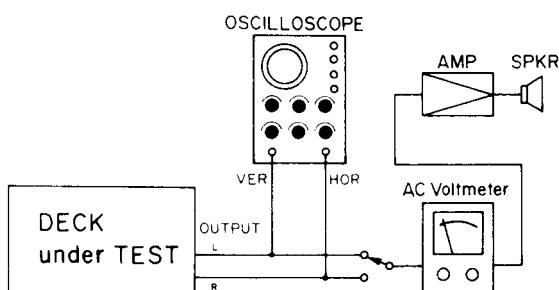


Fig. 5-2 Test setup for azimuth check

## 5 ELECTRICAL ADJUSTMENT AND CHECKS

### PRECAUTIONS

1. Before performing adjustments and checks, clean and demagnetize the entire tape path.
2. Make sure the deck is properly set for the voltage in your locality.
3. In general, adjustments and checks are made in the order of L-ch then R-ch. Double REF. Nos. and test point designations indicate L-ch/R-ch. (Example: R11/R21)
4. 0 dB is referenced to 0.775 V. If an AC voltmeter that references 0 dB to 1 V is used, appropriate compensation should be made.
5. The AC voltmeter used in the procedures must have an input impedance of 1M-ohms or more.
6. Note the "Deck settings" at the top of each chart. The settings apply to all checks for a specific chart unless explicitly stated otherwise.

### 5.1 PLAYBACK PERFORMANCE

**Deck settings:**  
**NR SYSTEM sw:** OUT  
**TAPE (BIAS/EQ) sw:** METAL

**TEAC test tapes:**  
**MTT-150:** For Dolby level calibration  
**MTT-316:** For playback frequency response check for METAL, Co (CrO<sub>2</sub>)  
**MTT-501:** For S/N check with NORMAŁ

ITEM	SETTING	INPUT SIGNAL	ADJUST (or CHECK)	MEASURING POINT: RESULT	REMARKS
<b>1. REC/PLAY head azimuth</b>	Connection: Fig. 5-2	MTT-150	Check	OUTPUT: Phase: within 45°	Refer to Fig. 5-4
		MTT-316 (10 kHz)	Azimuth nut of R/P heads (Fig. 5-3)	OUTPUT: Max. output at L- & R-ch's (on VTVM)	
<b>2. Specified output level</b>	—	MTT-150	R11/R21	TP11/TP21 580 mV (-2.5 dB)	
	—	MTT-150	Check	OUTPUT: -5 dB ±1 dB (388 to 489 mV)	Spec. output level
<b>3. PEAK LEVEL METER</b>	—	MTT-150	R15/R25	PEAK LEVEL meter: 0 dB	
<b>4. Frequency response</b>	TAPE sw: METAL If 10 kHz output is lower than spec., cut R106 and/or R206 on MAIN PCB.	MTT-316	Check (R106/R206)	OUTPUT: Fig. 5-5	See Fig. 5-16 for resistor location
	TAPE sw: NORMAL	MTT-316	Check	OUTPUT: At 10 kHz should be approx. 4 dB higher than measured in above step.	
<b>5. Signal-to-noise ratio</b>	TAPE sw: NORMAL	Fully-erased tape: (Use bulk tape eraser)	Check	OUTPUT: 46 dB min.	Ratio of spec. output of -5 dB to noise

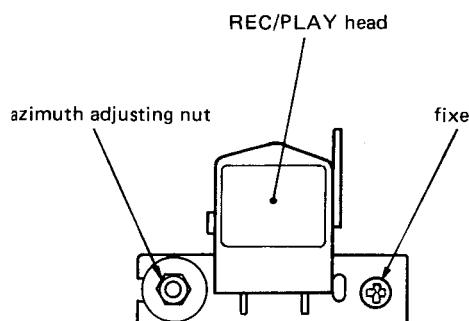


Fig. 5-3 Azimuth nut location

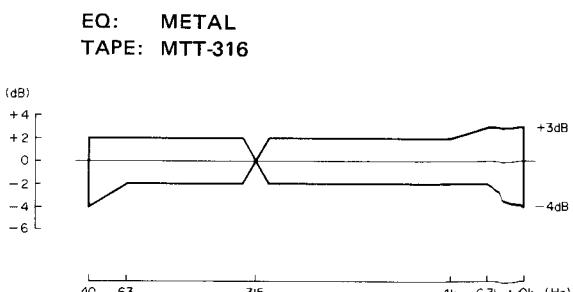


Fig. 5-5 Playback frequency response

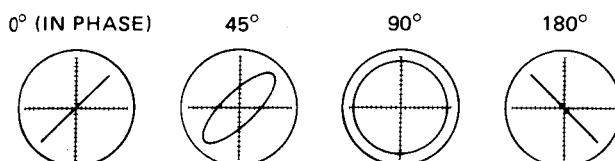


Fig. 5-4 Confirming phase relationship

## 5.2 MONITOR PERFORMANCE

**Deck settings:**  
 REC-PAUSE mode  
 NR SYSTEM sw.: OUT  
 INPUT sw.: LINE  
 BALANCE cont.: Center Position

ITEM	SETTING	INPUT SIGNAL	ADJUST (or CHECK)	MEASURING POINT: RESULT	REMARKS
6. Min. input level	RECORD cont.: Max.	INPUT sw.: MIC	MIC: 400 Hz/-67 dB (346 µV)	Check	OUTPUT: -5 dB ±3 dB (308 to 615 mV) MIC min. input level
		INPUT sw.: MIC	DIN IN: 400 Hz/-45 dB (4.36 mV)	Check	OUTPUT: -5 dB ±3 dB (308 to 615 mV) DIN min. input level (For European models)
		INPUT sw.: LINE	LINE IN: 400 Hz/-19 dB (86.9 mV)	Check	OUTPUT: -5 dB ±3 dB (308 to 615 mV) LINE min. input level
7. Specified LINE input level	—	LINE IN: 400 Hz/-9 dB (275 mV)	VOLUME cont.	TP11/TP21 580 mV (-2.5 dB)	Specified setting of VOLUME cont.
		LINE IN: 400 Hz/-9 dB (275 mV)	Check	OUTPUT: -5 dB ±1 dB (388 to 489 mV)	
		If OUTPUT level difference between L- & R-ch is 1 dB or more, cut R144/R244 on the lower reading ch.	Fixed resistor R144/R244	OUTPUT: 1 dB or less difference between L- & R-ch.	See Fig. 5-16 for resistor location
<b>IMPORTANT: Do not change the setting of the VOLUME control after establishing the setting as above.</b>					
8. PEAK LEVEL meter	—	LINE IN: 400 Hz/-9 dB (275 mV)	Check	PEAK LEVEL meter: 0 dB ±1 dB	
9. PHONES output level	Conn. — Fig. 5-6	LINE IN: 400 Hz/-9 dB (275 mV)	Check	PHONES: -18 dB ±3 dB (69.0 mV ~ 138 mV)	

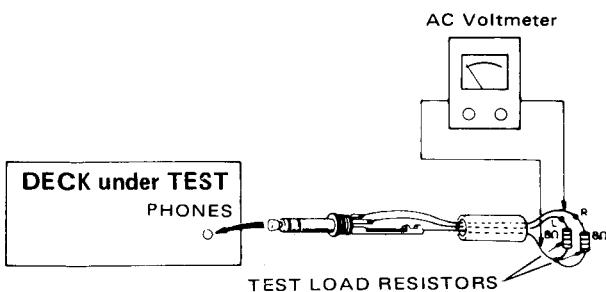


Fig. 5-6 Test setup for PHONES check

BIAS/EQ: Co (CrO<sub>2</sub>)  
 TAPE: MTT-5061  
 — OUT  
 - - - DOLBY NR  
 - - - DBX

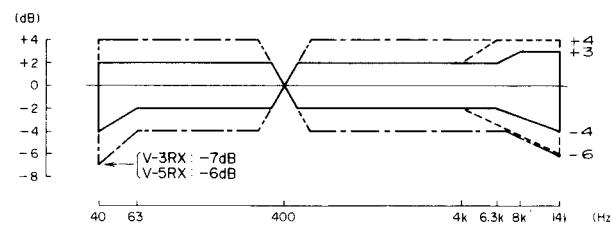


Fig. 5-8 Overall frequency response [Co (CrO<sub>2</sub>)]

BIAS/EQ: METAL  
 TAPE: MTT-5072  
 — OUT  
 - - - DOLBY NR  
 - - - DBX

BIAS/EQ: NORMAL  
 TAPE: MTT-501  
 — OUT  
 - - - DOLBY NR  
 - - - DBX

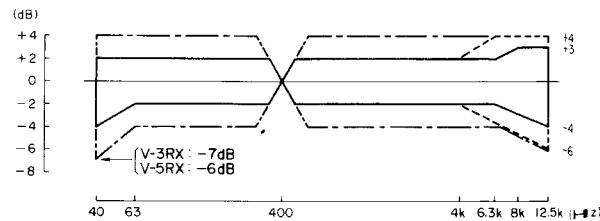


Fig. 5-7 Overall frequency response [METAL]

Fig. 5-9 Overall frequency response [NORMAL]

## 5-3 RECORDING PERFORMANCE

DECK settings:  
**NR SYSTEM sw.:** OUT  
**INPUT sw.:** LINE  
**VOLUME cont.:** Specified position (item 7)  
**BALANCE cont.:** Center position

TEAC test tapes:  
**MTT-5061:** For record test with Co ( $\text{CrO}_2$ )  
**MTT-501:** For record test with NORMAL  
**MTT-5072:** For record test with METAL

ITEM	SETTING	INPUT SIGNAL	ADJUST (or CHECK)	MEASURING POINT: <b>RESULT</b>	REMARKS
<b>10. BIAS trap</b>	Record-pause mode	LINE IN: No signal	U106/U206	TP12/TP22 Min. reading	
1) Turn trim pots R13 and R14 fully clockwise for each trim pot to have minimum value. Then adjust in the order of steps (2) (3) (4).					
<b>11. Record bias</b>	2) TAPE sw.: METAL Tape: MTT-5072	LINE IN: 400Hz & 6.3 kHz alternately/-42 dB (6.15 mV)	C141/C241	OUTPUT: Nearly equal level at both frequencies	
	3) TAPE sw.: Co ( $\text{CrO}_2$ ) Tape: MTT-5061	LINE IN: 400 Hz & 6.3 kHz alternately/-42 dB (6.15 mV)	R14.....	OUTPUT: Nearly equal level at both frequencies	... For L- & R-ch
	4) TAPE sw.: NORMAL Tape: MTT-501	LINE IN: 400 Hz & 6.3 kHz alternately/-42 dB (6.15 mV)	R13.....	OUTPUT: Nearly equal level at both frequencies	... For L- & R-ch
<b>12. Record level</b>	TAPE sw.: METAL Tape: MTT-5072	LINE IN: 400 Hz/-12 dB (195 mV)	R12/R22	OUTPUT: -8 dB (308 mV)	
	TAPE sw.: Co( $\text{CrO}_2$ ) Tape: MTT-5061	LINE IN: 400 Hz/-12 dB (195 mV)	Check	OUTPUT: -8 dB $\pm$ 1.5 dB (259 to 367 mV)	
	TAPE sw.: NORMAL Tape: MTT-501	LINE IN: 400 Hz/-12 dB (195 mV)	Check	OUTPUT: -8 dB $\pm$ 1.5 dB (259 to 367 mV)	
<b>13. Total harmonic distortion</b>	Same as 12 above.	LINE IN: 400 Hz/-12 dB (195 mV)	Check	OUTPUT: 2.2% or less with METAL, Co( $\text{CrO}_2$ ) 2.0% or less with NORMAL	
<b>14. Frequency response</b>	TAPE sw.: METAL Tape MTT-5072	LINE IN: Required signal/ -42 dB (6.15 mV)	L101/L201	OUTPUT: Fig. 5-7	
	TAPE sw.: Co( $\text{CrO}_2$ ) Tape: MTT-5061	LINE IN: Required signal/ -42 dB (6.15 mV)		OUTPUT: Fig. 5-8	
	TAPE sw.: NORMAL Tape: MTT-501	LINE IN: Required signal/ -42 dB (6.15 mV)		OUTPUT: Fig. 5-9	
If frequency response is out of specification, recheck #11, "Record bias".					
<b>15. Signal-to-noise ratio</b>	TAPE sw.: METAL Tape: MTT-5072	LINE IN: 1 kHz/-9 dB (275 mV) ↓ no signal	Check	OUTPUT: 45 dB min.	
	TAPE sw.: Co( $\text{CrO}_2$ ) Tape: MTT5061	LINE IN: 1 kHz/-9 dB (275 mV) ↓ no signal	Check	OUTPUT: 45 dB min.	Ratio of spec- ified output of -5 dB to noise
	TAPE sw.: NORMAL Tape: MTT-501	LINE IN: 1 kHz/-9 dB (275 mV) ↓ no signal	Check	OUTPUT: 44 dB min.	

ITEM	SETTING	INPUT SIGNAL	ADJUST (or CHECK)	MEASURING POINT: RESULT	REMARKS
16. Erase efficiency	<ul style="list-style-type: none"> <li>Connection is same as in Fig. 5-1, but engage 1-kHz filter.</li> <li>Record a 1-kHz signal. Rewind tape to midpoint of recorded portion. Record a "no signal" portion. Find the difference between the 1-kHz portion and the "no-signal" portion.</li> </ul>				
	TAPE sw.: METAL Tape: MTT-5072	LINE IN: 1 kHz/+1 dB (0.869 V) ↓ no signal	Check	OUTPUT: 65 dB min. ratio	Ref. output level: +5 dB (1.38 V)
17. REC MUTE function	<ul style="list-style-type: none"> <li>Connection: Fig. 5-1, but engage 1-kHz filter.</li> <li>Record a 1-kHz signal. Push REC MUTE button for several seconds. (At this time, make sure LED on the button lights). Rewind and play the tape. Find the difference between the 1-kHz portion and the "no-signal" portion.</li> </ul>				
	TAPE sw.: Co(CrO <sub>2</sub> ) Tape: MTT-5061	LINE IN: 1 kHz/+1 dB (0.869 V) ↓ no signal	Check	OUTPUT: 65 dB min. ratio	Ref. output level: +5 dB (1.38 V)
18. Channel separation	<ul style="list-style-type: none"> <li>Connection Fig. 5-1, but do not connect LINE IN (R), and engage 1-kHz filter.</li> <li>Set the deck to record mode. Find the difference between the 1-kHz recorded portion (L-ch) and the "no signal" portion (R-ch).</li> </ul>				
	TAPE sw.: Co(CrO <sub>2</sub> ) Tape: MTT-5061	LINE IN: L-ch 1 kHz/-9 dB (275 mV) R-ch No signal	Check	OUTPUT: 30 dB min. ratio	
19. Adjacent track crosstalk	<ul style="list-style-type: none"> <li>Connection: Fig. 5-1, but do not connect LINE IN (L) and OUTPUT (L).</li> <li>Record a 125-Hz signal on R-ch and note output level. Invert tape and play R-ch track. Check leakage level against the output reference of previously recorded portion.</li> </ul>				
	TAPE sw.: Co(CrO <sub>2</sub> ) Tape: MTT-5061	LINE IN: L-ch No signal R-ch 125 Hz/-9 dB (275 mV)	Check	OUTPUT: 40 dB min. ratio	
20. DOLBY NR effect	<ul style="list-style-type: none"> <li>Record a 1-kHz signal with NR SYSTEM switch OUT. Play this portion with NR SYSTEM switch set to OUT and set to DOLBY NR. Obtain the difference in output level between OUT and DOLBY NR positions. Repeat the above process using a 10-kHz signal.</li> </ul>				
	TAPE sw.: Co(CrO <sub>2</sub> ) Tape: MTT-5061	LINE IN: 1 kHz/-32 dB 19.5 mV)	Check	OUTPUT: Variation 3 dB ~ 8 dB	
	TAPE sw.: Co(CrO <sub>2</sub> ) Tape: MTT-5061	LINE IN: 10 kHz/-42 dB (6.15 mV)	Check	OUTPUT: Variation 8 dB ~ 12 dB	

## 5-4 DBX PERFORMANCE

Note: Test this performance only after you are sure that the "5-5 dbx PCB ADJUSTMENT" is correct.

**Deck settings:**  
**NR SYSTEM sw.:** DBX  
**INPUT sw.:** LINE  
**VOLUME cont.:** Specified position (item 7)  
**BALANCE cont.:** Center position

**TEAC test tapes:**  
**MTT-5061:** For record test with Co ( $\text{CrO}_2$ )  
**MTT-501:** For record test with NORMAL  
**MTT-5072:** For record test with METAL

ITEM	SETTING	INPUT SIGNAL	ADJUST (or CHECK)	MEASURING POINT: RESULT	REMARKS
21. Encoding level setting	REC/PAUSE mode	LINE IN: 1 kHz/-9 dB (275 mV)	Check	Term. 1(6) on dbx PCB: -2.5 dB (580 mV)	
		If, in the above step, the RESULT is out of specification, correct using the VOLUME control so that the correct value is obtained when the control is in the specified position (item 7).			
22. Encoder operation check (level)	REC/PAUSE mode	LINE IN: 1 kHz/-74.5 dB (146 $\mu$ V)	Check	TP51/TP61 on dbx PCB: -30 dB $\pm$ 0.5 dB variation from Ref. 1	
		LINE IN: 1 kHz/+5.5 dB (1.46 V)		TP51/TP61 on dbx PCB: +10 dB variation from Ref. 1	
23. Encoder operation check (frequency)	REC/PAUSE mode	LINE IN: 100 Hz/-14.5 dB (146 mV)	Check	TP51/TP61 on dbx PCB: +0.5 dB $\pm$ 1 dB deviation from Ref. 1	
		LINE IN: 10 kHz/-14.5 dB		TP51/TP61 on dbx PCB: -2.8 dB $\pm$ 1 dB deviation from Ref. 1	
24. Decoding level setting	<ul style="list-style-type: none"> <li>Record a 1 kHz signal with NR SYSTEM switch OUT. Rewind and play the recorded portion. Note the off-the-tape level from OUTPUT .... (1). Repeat the above process with NR SYSTEM switch set to "DBX". Note the off-the-tape level .... (2). Compare the difference between (1) and (2). If <math>\pm 1</math> dB or more, correct by R55/R65 using (1) as Reference.</li> </ul>				
	REC/PLAY mode BIAS/EQ: METAL Tape: MTT-5072	NR SYSTEM: OUT	LINE IN: 1 kHz/-14.5 dB (146 mV)	Check	OUTPUT: Note the off-the-tape level..... Reference2
25. Distortion	REC/PLAY mode Measure the off-the-tape level {BIAS, EQ: METAL {Tape: MTT-5072 {BIAS, EQ: Co ( $\text{CrO}_2$ ) {Tape: MTT-5061 {BIAS, EQ: NORMAL {Tape: MTT-501	NR SYSTEM: DBX	LINE IN: 400 Hz/-12 dB (195 mV)	Check	OUTPUT: 1.5% or less
26. Signal-to-noise ratio	Same as above	LINE IN: 1 kHz/-9 dB (275 mV) ↓ No signal	Check	OUTPUT: 65 dB min. ratio	Ratio of 1 kHz output (-5 dB) to noise

## 5-5 DBX PCB ADJUSTMENT

### Notes:

1. This section adjustment is not usually needed unless any of adjustor(s) have been changed or any component(s) on the PCB have sustained damage, since the dbx PCB assembly has been precisely adjusted in the factory.
2. For this section adjustment, it is necessary to disconnect the wires from terminals 1, 3, 4, and 6 of the connector P502 on the dbx PCB. Turn the deck OFF to prevent accidental damage when disconnecting or reconnecting.
3. Simply press the POWER switch to ON (all other switches and controls on the deck have no affect on this adjustment), then make this section adjustment.

### 5-5-1 ENCODING ADJUSTMENT

1. Preset all adjustors approximately to the center position.
2. Make the Fig. 5-12 connections, then feed 100 Hz, -8 dB (308 mV) to 1(6) terminal (INPUT).
3. Adjust R53/R63 (RMS SYM) to obtain a clear 200 Hz sine-wave on the oscilloscope. See Figs. 5-10 and 5-11.
4. Change the connections to Fig. 5-13, then feed a 1 kHz/-8 dB (308 mV) input signal to the INPUT terminal. Adjust R54/R64 (ENCODING LEVEL) so that AC voltmeter reads -8 dB (308 mV).
5. With the conditions in step 4, adjust R51/R61 (VCA SYM) for minimum distortion (0.2% or less).
6. Like Fig. 5-14, connect a DC voltmeter to TP51/TP61, then note the reading on the DC voltmeter with an input signal of 1 kHz/-8 dB (308 mV).
7. Cut off the input signal, then make the same measurement as in step 6 to adjust R52/R62 (EM ADJ) for the same level.
8. Repeat above steps 5 to 7 until the best results are obtained.
9. Check that when the input signal is 100 Hz/-8 dB (308 mV), then 10 kHz/-8 dB, the output signal from 3(4) terminal (OUTPUT) deviates by  $+0.5 \text{ dB} \pm 0.5 \text{ dB}$ , then  $-2.8 \text{ dB} \pm 0.5 \text{ dB}$  from -8 dB (reference), respectively....so that output, as a voltage value, should be 308 mV to 346 mV for 100 Hz, and 211 mV to 237 mV for 10 kHz.
10. Check that when 1 kHz/-68 dB (308  $\mu$ V) is applied, the output is  $-38 \text{ dB} \pm 0.5 \text{ dB}$  (9.21 mV to 10.3 mV).
11. Check that when the input signal is 1 kHz, +12 dB (3.08 V), the output is  $+2 \text{ dB} \pm 0.5 \text{ dB}$  (581 mV to 652 mV) and the distortion factor is 0.3% or less.

### 5-5-2 DECODING ADJUSTMENT

1. Preset all adjustors approximately to the center position.
2. Make the Fig. 5-15 connections, then feed a 1 kHz/-8 dB (308 mV) input signal to the INPUT terminal. Adjust R55/R65 (DECODING LEVEL) so that AC voltmeter reads -8 dB (308 mV).
3. Check that when the input signal is 100 Hz/-8 dB (308 mV), then 10 kHz/-8 dB, the output signal from 3(4) terminal (OUTPUT) deviates by  $-1 \text{ dB} \pm 0.5 \text{ dB}$ , then  $+5 \text{ dB} \pm 0.5 \text{ dB}$  from -8 dB (reference), respectively....so that output, as a voltage value, should be 652 mV to 731 mV for 100 Hz, and 1.30 V to 1.46 V for 10 kHz.
4. Check that when 1 kHz/-38 dB (9.75 mV) is applied, the output is  $-68 \text{ dB} \pm 1 \text{ dB}$  (275  $\mu$ V to 346  $\mu$ V).
5. Check that when the input signal is 1 kHz, +2 dB (0.975 V), the output is  $+12 \text{ dB} \pm 1 \text{ dB}$  (2.75 V to 3.46 V) and the distortion factor is 0.3% or less.

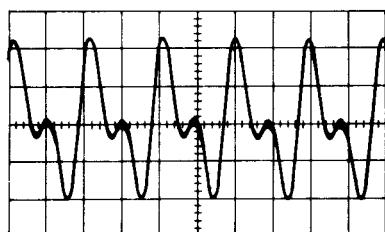


Fig. 5-10 R53/R63 setting (Incorrect)

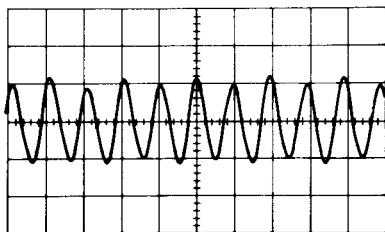


Fig. 5-11 R53/R63 setting (Correct)

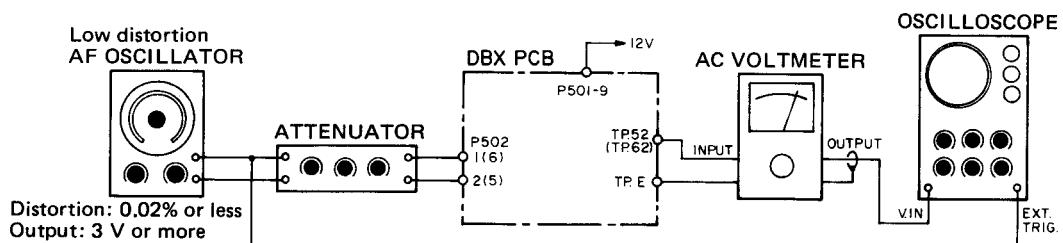


Fig. 5-12

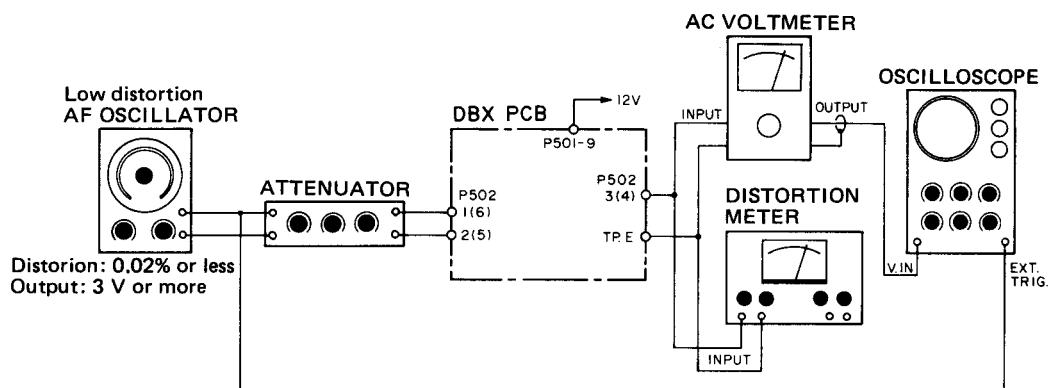


Fig. 5-13

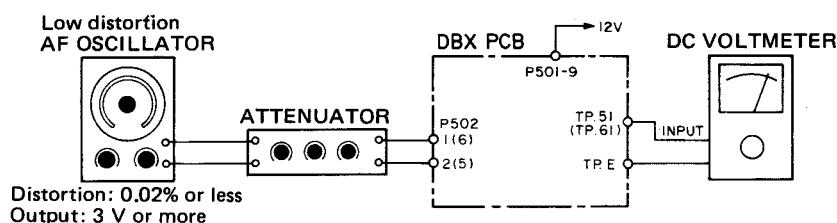


Fig. 5-14

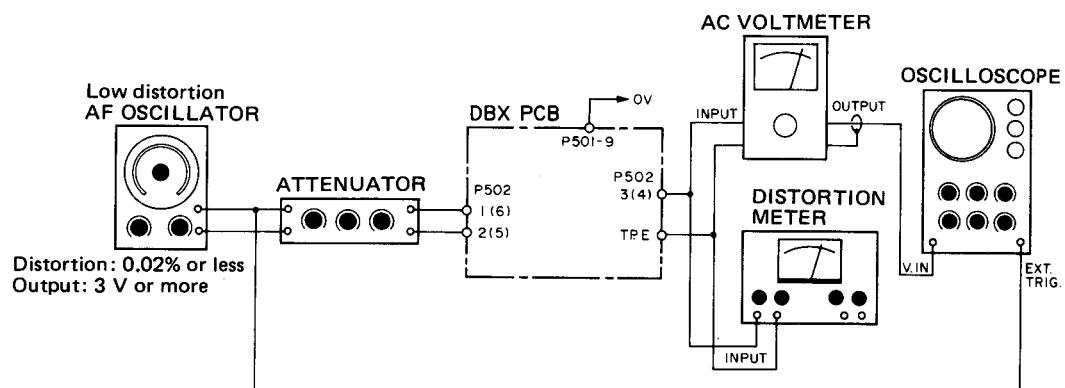


Fig. 5-15

## 5-6 ADJUSTMENT AND TEST POINT LOCATIONS

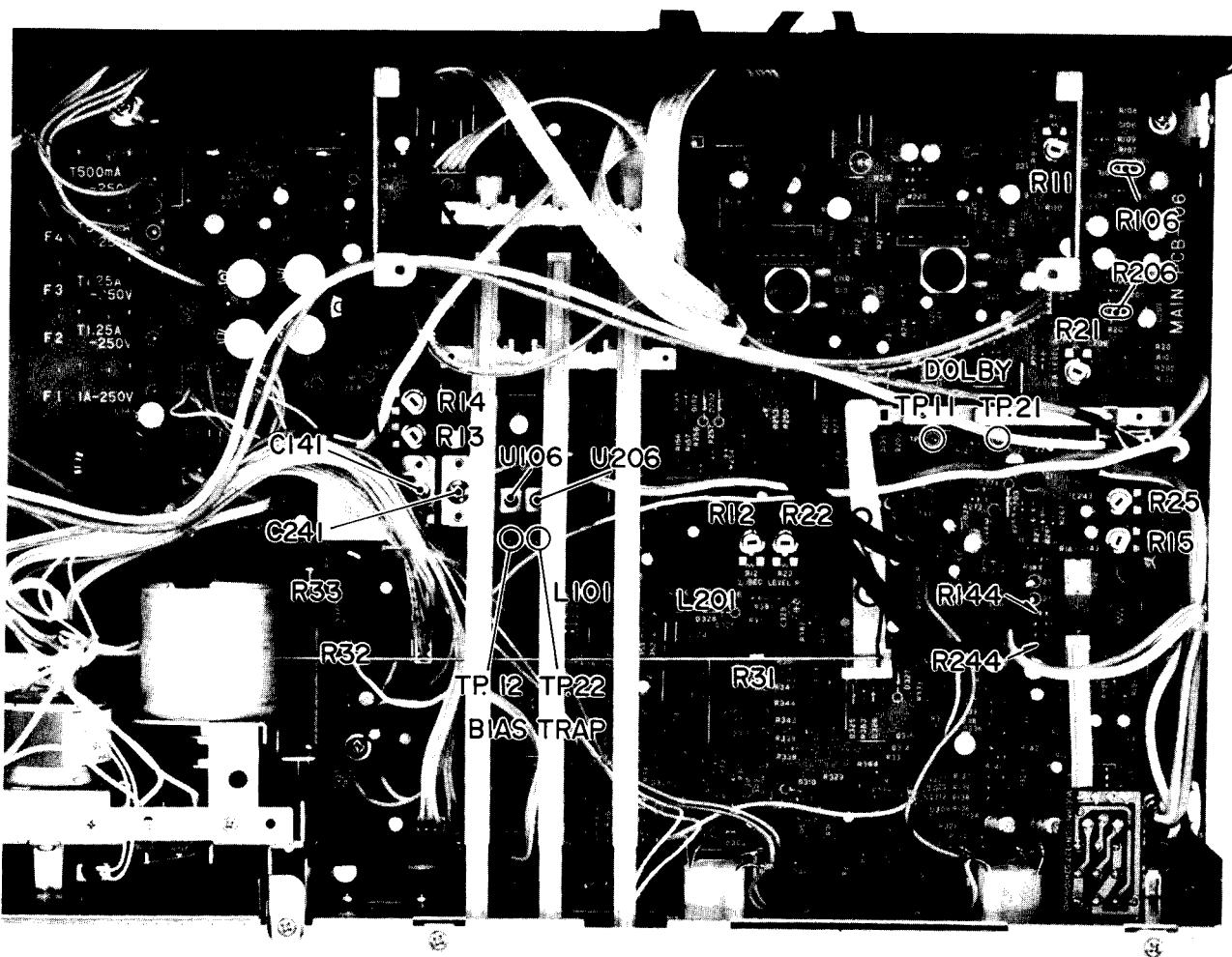
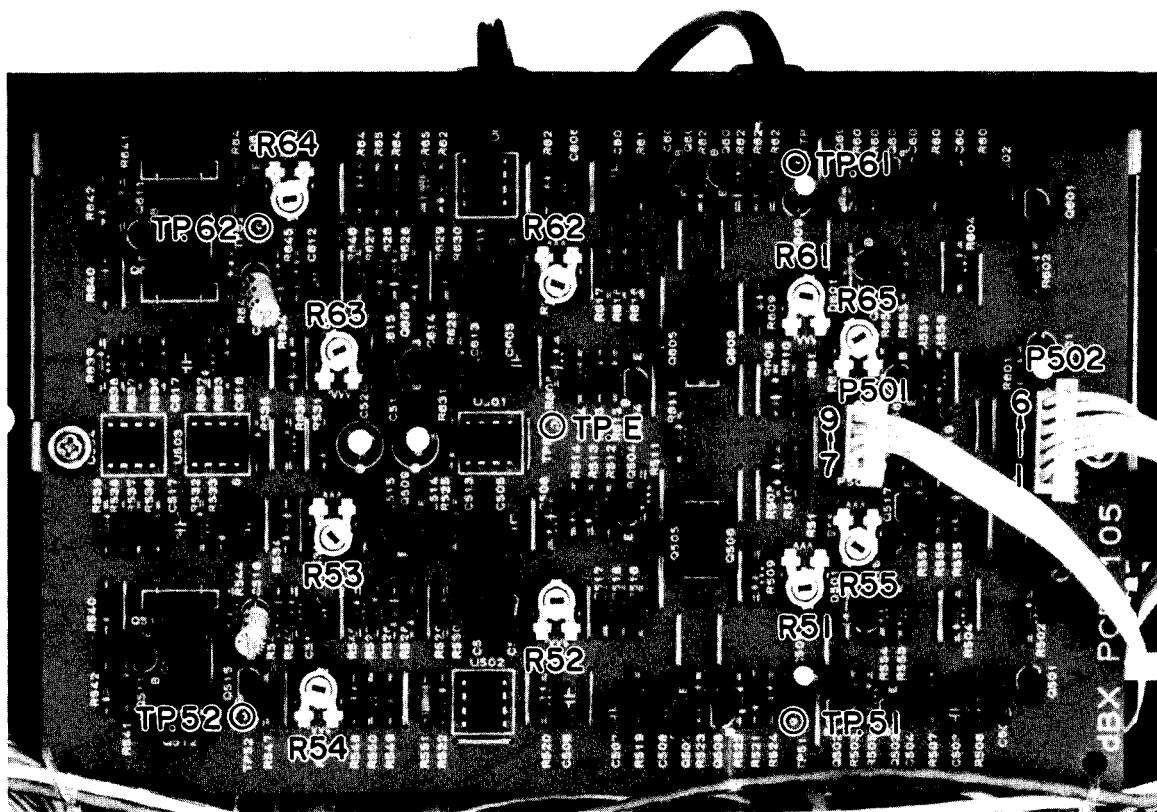
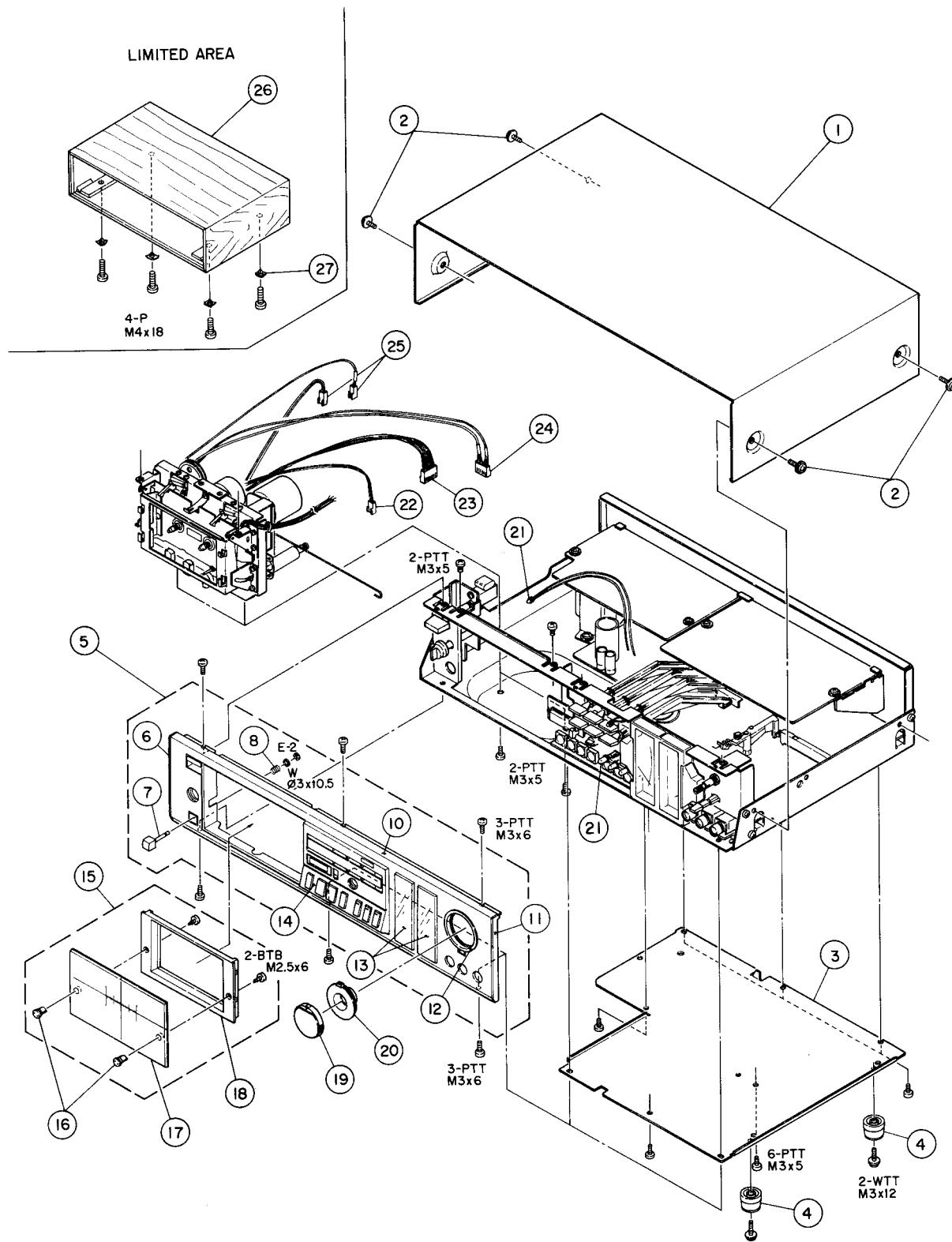


Fig. 5-16



**Fig. 5-17**

C141/C241	Record bias [METAL]
L101/L201	Frequency response [record]
R11/R21	Playback level
R12/R22	Record level
R13	Record bias [NORMAL]
R14	Record bias [Co (CrO <sub>2</sub> )]
R15/R25	Peak level meter
R51/R61	VCA SYM adjustment
R52/R62	EM adjustment
R53/R63	RMS SYM adjustment
R54/R64	Encoding level
R55/R65	Decoding level
R106/R206	Frequency response [playback], fixed resistors
R144/R244	Fine adj. for LINE input level, fixed resistors
U106/U206	Bias trap

**6 EXPLODED VIEWS AND PARTS LIST****EXPLODED VIEW - 1 (V-3RX)**

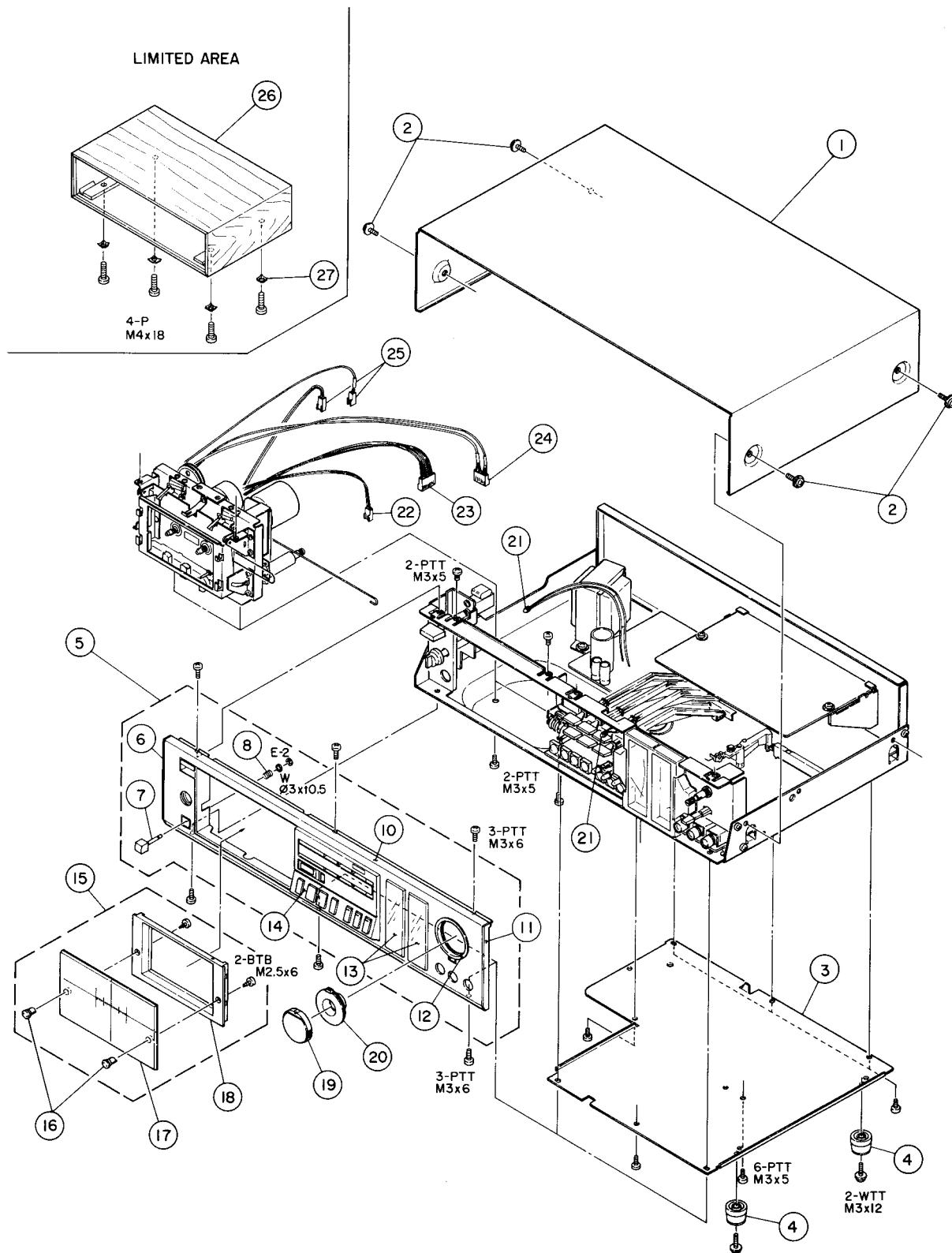
Parts marked with \*require longer delivery time.

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
1 - 1	*5800155300	Cover, Top	
1 - 2	*5783114000	Screw, Frange M4 x 6 (BLK Ni)	
1 - 3	*5800155500	Cover, Bottom [All except L]	
	*5800161800	Cover Assy, Bottom [L]	
1 - 4	*5800116100	Foot [All except L]	
1 - 5	*5640023600	Panel Assy, Front	
1 - 6	*5800154400	Sash, Side; L	
1 - 7	5800113200	Button, Eject	Part of 1 - 14
1 - 8	*5800160000	Spring, Earth	Part of 1 - 14
1 - 9		(Not used)	
1 - 10	*5800159901	Panel, Front	
1 - 11	*5800154500	Sash, Side; R	
1 - 12	*5800153602	Escutcheon, VR	
1 - 13	*5800153400	Cover, Meter	
1 - 14	*5800161004	Escutcheon Assy, Cassette; B	
1 - 15	5640023700	Cover Assy, Cassette	
1 - 16	*5800116800	Bushing	
1 - 17	*5800161203	Cover, Cassette; (2)	
1 - 18	*5800122500	Cover, Cassette; 2	
1 - 19	5800160101	Knob, REC; A	
1 - 20	5800160201	Knob, REC; B	
1 - 21	5142089000	Lamp, DC 6V 65mA	
1 - 22	*5122222000	Connector Socket, 3P	
1 - 23	*5122226000	Connector Socket, 7P	
1 - 24	*5122225000	Connector Socket, 6P	
1 - 25	*5122221000	Connector Socket, 2P	
1 - 26	*5800161500	Cabinet Assy [L]	
1 - 27	*5555526000	Washer [L]	

## INCLUDED ACCESSORIES

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
	5700016400	V-3RX Owner's manual [J]	
	5700016600	V-3RX Owner's manual [US]	
	5700016500	V-3RX Owner's manual [All except J, US]	
	5700016700	V-5RX Owner's manual [J]	
	5700016900	V-5RX Owner's manual [US]	
	5700016800	V-5RX Owner's manual [All except J, US]	
	5101369000	Information Supplement [J]	
	5101345000	Information Supplement [US]	
	5101495000	Information Supplement [All except J, US]	

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 [A]: AUSTRALIA [J]: JAPAN [L]: LIMITED AREA

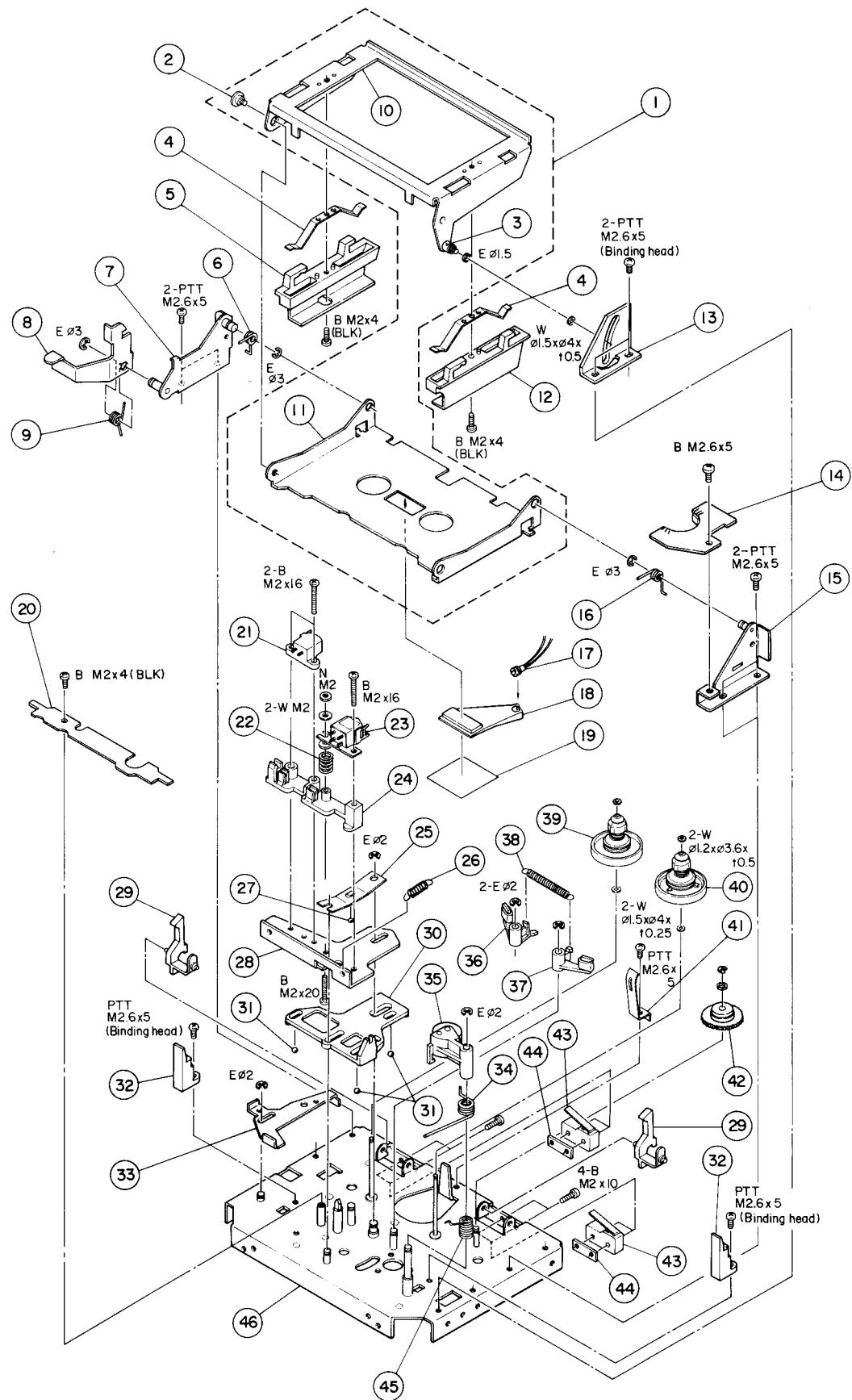
**EXPLODED VIEW - 2 (V-5RX)**

Parts marked with \*require longer delivery time.

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
2 - 1	*5800155300	Cover, Top	
2 - 2	*5783114000	Screw, Frange M4 x 6 (BLK Ni)	
2 - 3	*5800155500	Cover, Bottom [All except L]	
	*5800161800	Cover Assy, Bottom [L]	
2 - 4	*5800116100	Foot [All except L]	
2 - 5	*5640021800	Panel Assy, Front	
2 - 6	*5800154400	Sash, Side; L	
2 - 7	5800113200	Button, Eject	Part of 2 - 14
2 - 8	*5800160000	Spring, Earth	Part of 2 - 14
2 - 9		(Not used)	
2 - 10	*5800155801	Panel, Front	
2 - 11	*5800154500	Sash, Side; R	
2 - 12	*5800153602	Escutcheon, VR	
2 - 13	*5800153400	Cover, Meter	
2 - 14	*5800161104	Escutcheon Assy, Cassette; C	
2 - 15	5640021900	Cover Assy, Cassette	
2 - 16	*5800116800	Bushing	
2 - 17	*5800152902	Cover, Cassette; (1)	
2 - 18	*5800122500	Cover, Cassette; 2	
2 - 19	5800160101	Knob, REC; A	
2 - 20	5800160201	Knob, REC; B	
2 - 21	5142089000	Lamp, DC 6V 65mA	
2 - 22	*5122222000	Connector Socket, 3P	
2 - 23	*5122226000	Connector Socket, 7P	
2 - 24	*5122225000	Connector Socket, 6P	
2 - 25	*5122221000	Connector Socket, 2P	
2 - 26	*5800161500	Cabinet Assy [L]	
2 - 27	*5555526000	Washer [L]	

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[A]: AUSTRALIA [J]: JAPAN [L]: LIMITED AREA

**EXPLODED VIEW - 3 (V-3RX)**

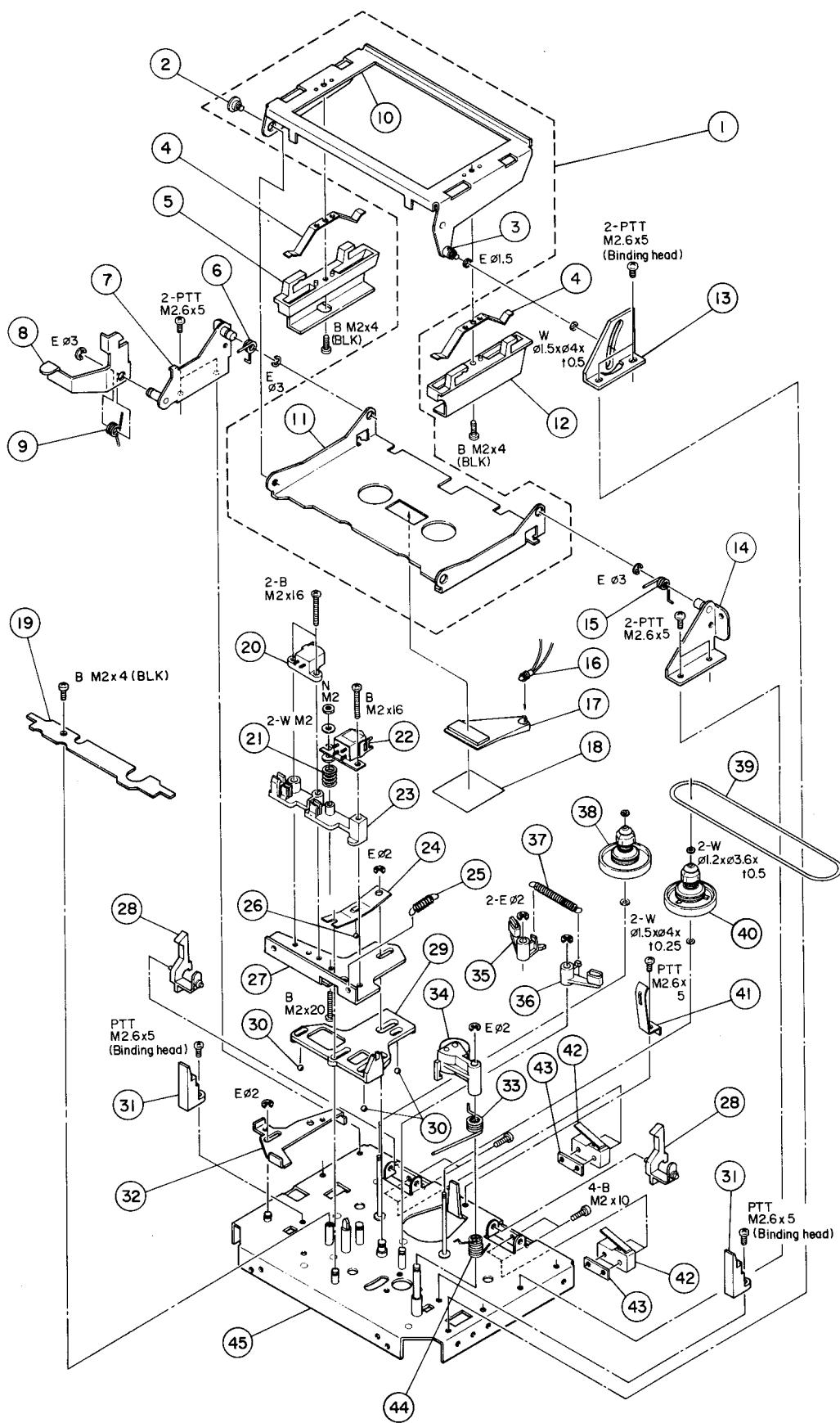


Parts marked with \*require longer delivery time.

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
3 - 1	*5800157400	Holder Sub-assy, Cassette	
3 - 2	*5581056000	Screw, Shoulder; A	A-304
3 - 3	*5800120100	Roller, Guide	
3 - 4	*5800115402	Spring, Cassette Pressure	
3 - 5	*5800109600	Holder, L	
3 - 6	*5800115500	Spring, Holder; L	
3 - 7	*5800121300	Bracket Assy, Holder; L	
3 - 8	*5800119100	Arm, Eject	
3 - 9	*5800115700	Spring, Lock	
3 - 10	*5800122901	Holder Sub-assy, Cassette; (1)	
3 - 11	*5800157300	Holder, Cassette; (3)	
3 - 12	*5800122100	Holder, R	
3 - 13	*5800119000	Bracket, Holder Guide	
3 - 14	*5200047801	PCB-109 Assy SENSOR	
3 - 15	*5800159200	Bracket Assy, Holder; R	
3 - 16	*5800115600	Spring, Holder; R	
3 - 17	5142201000	Lamp, DC 6V 65mA	
3 - 18	*5800033300	Lens, Lamp	A-700
3 - 19	*5800002900	Plate, Reflective	C-2
3 - 20	*5800169400	Cover, Head	
3 - 21	5569613000	Head, Erase	C-3
3 - 22	*5800114700	Spring, Head	
3 - 23	5378900600	Head, REC/PLAY	
3 - 24	*5800122600	Stand, Head	
3 - 25	*5800114900	Spring, Base Plate Pressure	
3 - 26	*5800114100	Spring, Head Base	
3 - 27	5540055000	Steel Ball, φ2	
3 - 28	*5800119300	Plate, Head Base	
3 - 29	*5800117301	Arm, Sensor	
3 - 30	*5800122800	Plate, Slider	
3 - 31	5540056000	Steel Ball, φ3	
3 - 32	*5800117400	Guide, Cassette	
3 - 33	*5800119200	Plate, Stopper	
3 - 34	*5800115300	Spring, Pinch Roller Arm	
3 - 35	5800120400	Arm Assy, Pinch Roller	
3 - 36	*5800131601	Arm Assy, Brake; L	
3 - 37	*5800131701	Arm Assy, Brake; R	
3 - 38	*5800114800	Spring, Brake	
3 - 39	5800107300	Table Assy, Reel; Supply	
3 - 40	5800108701	Table Assy, Reel; Take-up	
3 - 41	*5800115002	Spring, Cassette Pressure	
3 - 42	5800158800	Gear Assy, Counter; A	
3 - 43	*5301455300	Switch, Micro	
3 - 44	*5554447000	Plate, Micro Switch	
3 - 45	*5800152600	Spring, Arm Return	
3 - 46	*5800159501	Chassis Assy, Mechanism	

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**EXPLODED VIEW - 4 (V-5RX)**

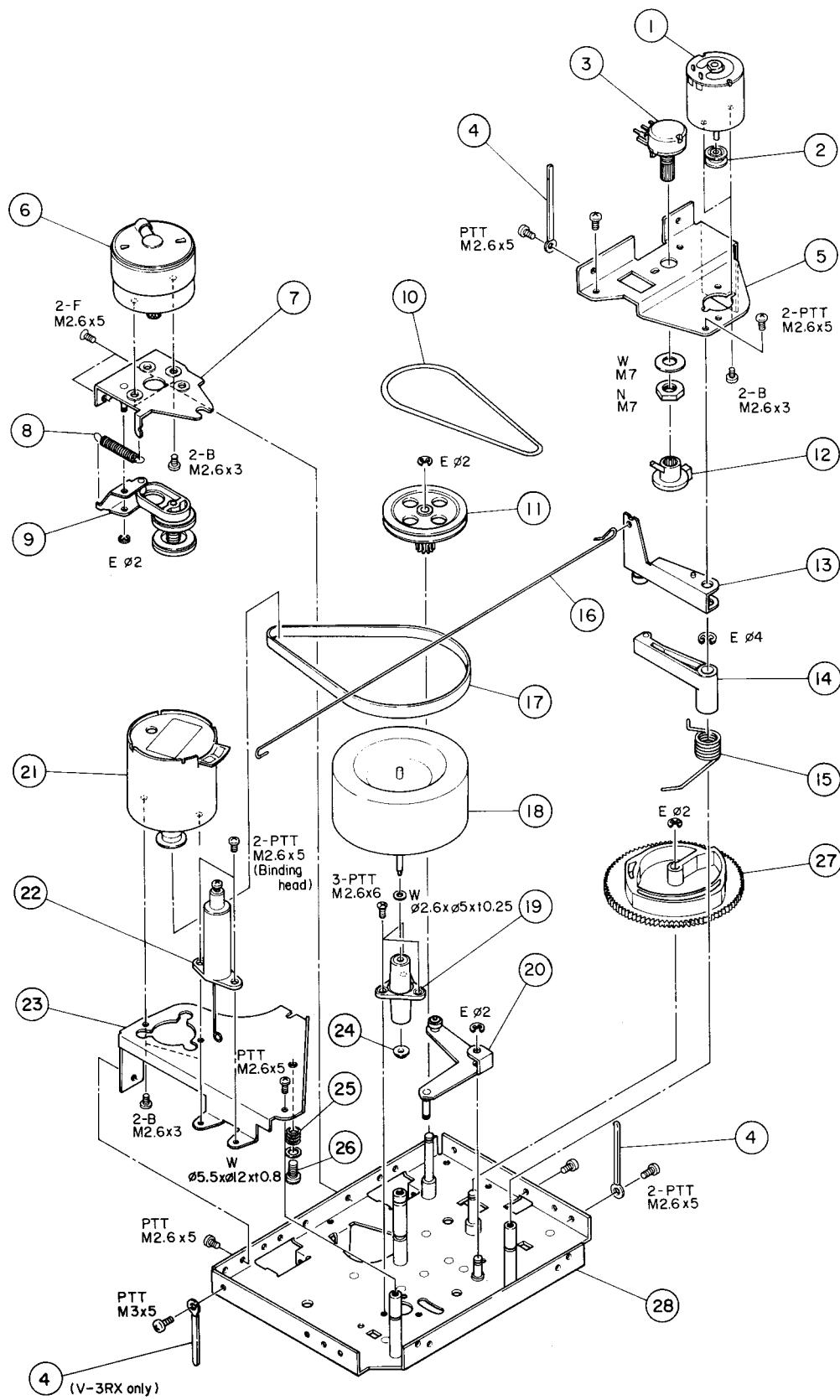


Parts marked with \*require longer delivery time.

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
4 - 1	*5800157400	Holder Sub-assy, Cassette	
4 - 2	*5581056000	Screw, Shoulder; A	A-304
4 - 3	*5800120100	Roller, Guide	
4 - 4	*5800115401	Spring, Cassette Pressure	
4 - 5	*5800109600	Holder, L	
4 - 6	*5800115500	Spring, Holder; L	
4 - 7	*5800121300	Bracket Assy, Holder; L	
4 - 8	*5800119100	Arm, Eject	
4 - 9	*5800115700	Spring, Lock	
4 - 10	*5800122901	Holder Sub-assy, Cassette; (1)	
4 - 11	*5800157300	Holder, Cassette, (3)	
4 - 12	*5800122100	Holder, R	
4 - 13	*5800119000	Bracket, Holder Guide	
4 - 14	*5800121400	Bracket Assy, Holder; R	
4 - 15	*5800115600	Spring, Holder; R	
4 - 16	5142201000	Lamp, DC 6V 65mA	
4 - 17	*5800033300	Lens, Lamp	A-700
4 - 18	*5800002900	Plate, Reflective	C-2
4 - 19	*5800169400	Cover, Head	
4 - 20	5569613000	Head, Erase	C-3
4 - 21	*5800114700	Spring, Head	
4 - 22	5378600200	Head, REC/PLAY	
4 - 23	*5800122600	Stand, Head	
4 - 24	*5800114900	Spring, Base Plate Pressure	
4 - 25	*5800114100	Spring, Head Base	
4 - 26	5540055000	Steel Ball, φ2	
4 - 27	*5800119300	Plate, Head Base	
4 - 28	*5800117301	Arm, Sensor	
4 - 29	*5800122800	Plate, Slider	
4 - 30	5540056000	Steel Ball, φ3	
4 - 31	*5800117400	Guide, Cassette	
4 - 32	*5800119200	Plate, Stopper	
4 - 33	*5800115300	Spring, Pinch Roller Arm	
4 - 34	5800120400	Arm Assy, Pinch Roller	
4 - 35	*5800131601	Arm Assy, Brake; L	
4 - 36	*5800131701	Arm Assy, Brake; R	
4 - 37	*5800114800	Spring, Brake	
4 - 38	5800107300	Table Assy, Reel; Supply	
4 - 39	5800106700	Belt, Counter	
4 - 40	5800108701	Table Assy, Reel; Take-up	
4 - 41	*5800115002	Spring, Cassette Pressure	
4 - 42	*5301455300	Switch, Micro	
4 - 43	*5554447000	Plate, Micro Switch	
4 - 44	*5800152600	Spring, Arm Return	
4 - 45	*5800169500	Chassis Assy, Mechanism	

[US]: U.S.A. [C]: CANADA [GE]: GENERAL EXPORT [E]: EUROPE [UK]: U.K.  
[A]: AUSTRALIA [J]: JAPAN [L]: LIMITED AREA

**EXPLODED VIEW - 5 (V-3RX/V-5RX)**

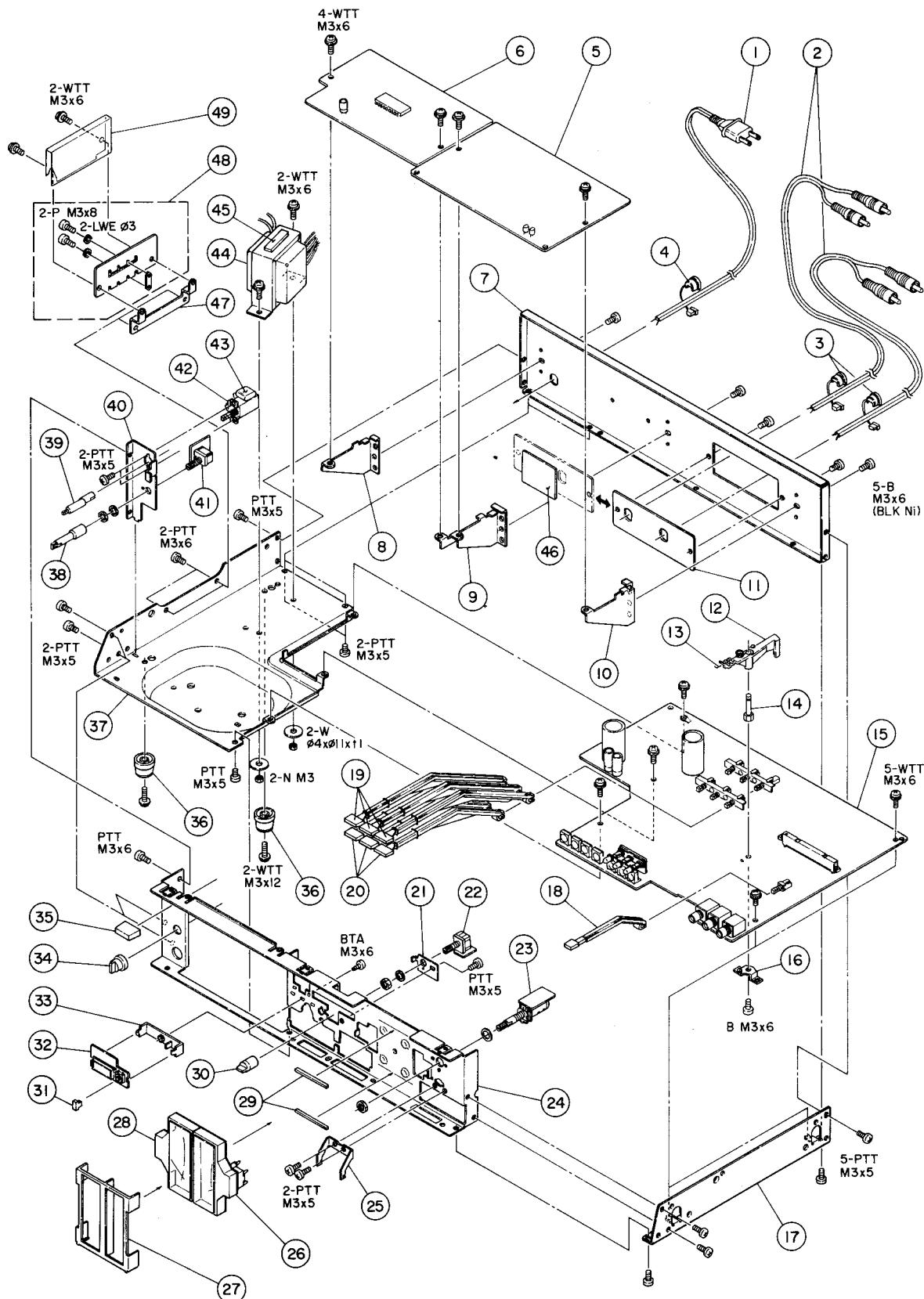


Parts marked with \*require longer delivery time.

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
5 - 1	5370001400	Motor, Control; DC	
5 - 2	5800123300	Pulley, V	
5 - 3	5282009601	Var. Res., 10kΩ (B) (R403)	
5 - 4	*5581038000	Clamper, Cord; A	
5 - 5	*5800122200	Bracket, Motor	
5 - 6	5370001200	Motor Assy, Reel; DC	
5 - 7	*5800121800	Bracket Assy, Reel Motor	
5 - 8	*5800115800	Spring, Idler Arm	
5 - 9	5800107800	Idler Assy	
5 - 10	5800106800	Belt, Reduction Pulley	
5 - 11	5800117200	Pulley, Reduction	
5 - 12	*5800116700	Joint	
5 - 13	*5800107001	Lever Sub-assy, Record	
5 - 14	*5800105400	Arm Assy, Balance	
5 - 15	*5800114600	Spring, Balance Arm	
5 - 16	*5800154200	Rod, Record	
5 - 17	5800106900	Belt, Capstan Drive	
5 - 18	5800106401	Flywheel Assy, Capstan	
5 - 19	5800106200	Housing Assy, Capstan	
5 - 20	*5800105801	Arm Assy, Base Plate Actuating	A-400
5 - 21	5370001101	Motor Assy, Capstan; DC	
5 - 22	*5800131802	Damper Assy	
5 - 23	*5800122301	Bracket, Flywheel	
5 - 24	*5534130000	Retainer, Oil	
5 - 25	*5800161400	Spring, Thrust	
5 - 26	*5800156300	Screw, Thrust	
5 - 27	*5800122700	Cam, Control	
5 - 28	*5800159501	Chassis Assy, Mechanism (V-3RX)	
	*5800169501	Chassis Assy, Mechanism (V-5RX)	

[US]: U.S.A. [C]: CANADA [GE]: GENERAL EXPORT [E]: EUROPE [UK]: U.K.  
 [A]: AUSTRALIA [J]: JAPAN [L]: LIMITED AREA

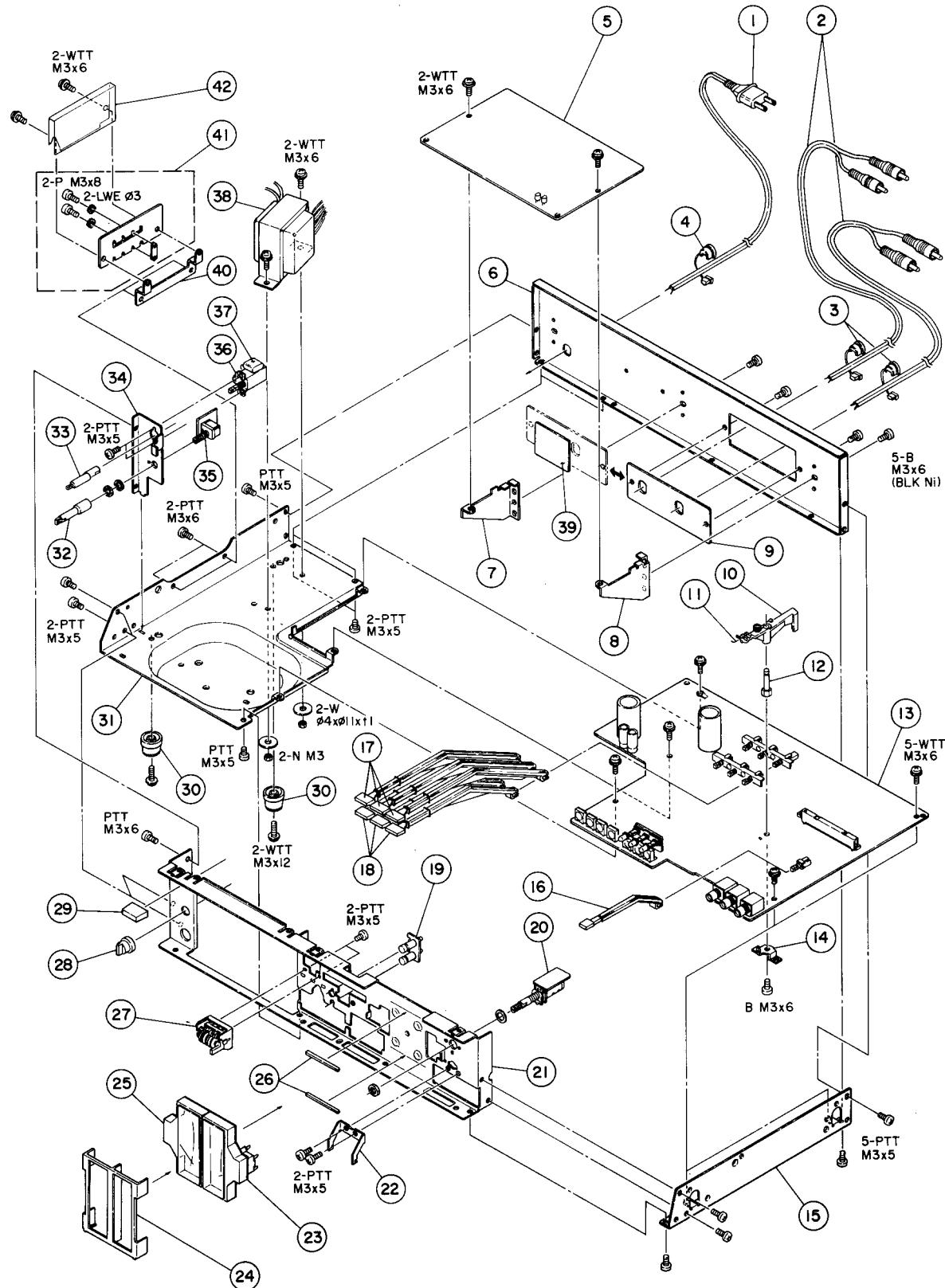
**EXPLODED VIEW - 6 (V-3RX)**



Parts marked with \*require longer delivery time.

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
6 - 1	△ 5128034000 △ 5128075000 △ 5128047000 △ 5350008200 △ 5350008300	Cord, AC Power [J] Cord, AC Power [US, C, GE, L] Cord, AC Power [UK] Cord, AC Power [E] Cord, AC Power [A]	
6 - 2	5350008700 5350008600	Cord, In-output [US] Cord, In-output [All except US]	
6 - 3	*5534660000	Strain Relief, Cord; 4N-4	
6 - 4	*5534661000 *5534660000	Strain Relief, Cord; 4K-1 [UK] Strain Relief, Cord; 4N-4 [All except UK]	
6 - 5	*5200046100	PCB-105 Assy, dBX	
6 - 6	*5200047501	PCB-101 Assy, BLOCK REPEAT	
6 - 7	*5800155700	Panel, Rear	
6 - 8	*5800153901	Bracket, PCB; B	
6 - 9	*5800158002	Bracket, PCB; C	
6 - 10	*5800153801	Bracket, PCB; A	
6 - 11	*5800117801 *5800117901	Plate, In-output; A [All except E] Plate, In-output; B [E]	
6 - 12	*5800154600	Arm, Record	
6 - 13	*5800115200	Spring, Record	
6 - 14	*5800154000	Shaft, Record Arm	
6 - 15	*5200048001 *5200048100	PCB-106 Assy, MAIN [All except E, UK] PCB-106 Assy, MAIN [E, UK]	
6 - 16	*5800154100	Bracket, PCB	
6 - 17	*5800155401	Chassis, R	
6 - 18	5800154800	Button, C	
6 - 19	5800155100	Button, A	
6 - 20	5800155200	Button, B	
6 - 21	*5800153000	Bracket, MEMORY Switch	
6 - 22	*5200047700	PCB-172 Assy, SW	
6 - 23	*5200046800	PCB-127 Assy, VOLUME	
6 - 24	*5800155902	Chassis, Front	
6 - 25	*5800156800	Bracket, Jack	
6 - 26	5296002800	Meter, Peak Level; R	
6 - 27	*5800157101	Escutcheon, Meter	
6 - 28	5296002700	Meter, Peak Level; L	
6 - 29	*5800153100	Cushion, Meter	
6 - 30	5800160900	Knob, MEMORY	
6 - 31	5800160800	Button, Clear	
6 - 32	*5200047300	PCB-102 Assy, COUNTER	
6 - 33	*5800153502	Bracket, COUNTER PCB	
6 - 34	5800044300	Knob, TIMER	
6 - 35	5800119700	Button, POWER	
6 - 36	*5800116100	Foot [All except L]	
6 - 37	*5800155600 *5800161900	Chassis, L [All except L] Chassis Assy, L [L]	
6 - 38	*5800154700	Rod, Joint	
6 - 39	*5800116200	Rod, A	
6 - 40	*5800154300	Bracket, Switch	
6 - 41	*5200047600	PCB-110 Assy, TIMER	
6 - 42	△ 5134122000 △ 5300019200 △ 5300019300 △ 5300019400	Switch, Push; POWER [GE, L] Switch, Push; POWER [J] Switch, Push; POWER [US, C] Switch, Push; POWER [E, UK, A]	
6 - 43	△ 5052905000 △ 5052906000 △ 5052911000 △ 5267702500 △ 5292002500	Spark Killer, 0.1μF + 120Ω/300V [J] Spark Killer, 0.33μF + 120Ω/250V [US] Spark Killer, 0.033μF + 120Ω/250V [C] Spark Killer, 0.047μF/250V [E, UK, A] Spark Killer, 0.01μF + 300Ω [GE, L]	
6 - 44	△ *5320009300 △ *5320009400 △ *5320009500 △ *5320009600 △ *5320009800	Transformer, Power [J] Transformer, Power [US] Transformer, Power [GE, L] Transformer, Power [E, UK, A] Transformer, Power [C]	
6 - 45	*5555570000	Cushion, Top Cover; B	
6 - 46	*5200047000	PCB Assy, DIN [E]	
6 - 47	*5800154900	Bracket [GE, L]	
6 - 48	*5200047100	PCB-103 Assy, VOLTAGE SELECTOR [GE, L]	
6 - 49	*5800157800	Cover, SELECTOR PCB [GE, L]	

[US]: U.S.A. [C]: CANADA [GE]: GENERAL EXPORT [E]: EUROPE [UK]: U.K.  
[A]: AUSTRALIA [J]: JAPAN [L]: LIMITED AREA

**EXPLODED VIEW - 7 (V-5RX)**

Parts marked with \*require longer delivery time.

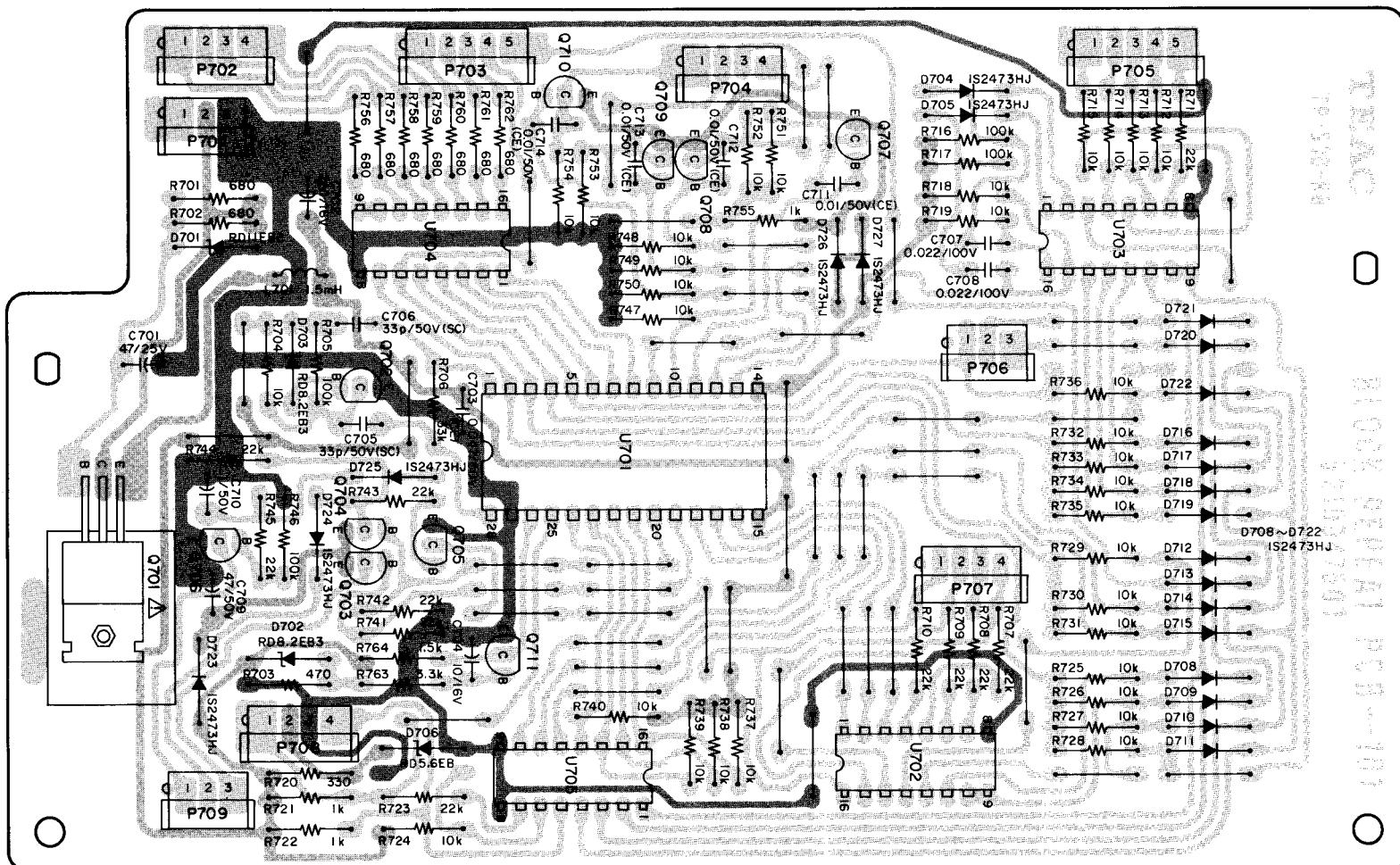
REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
7 - 1	△ 5128034000 △ 5128075000 △ 5128047000 △ 5350008200 △ 5350008300	Cord, AC Power [J] Cord, AC Power [US, C, GE, L] Cord, AC Power [UK] Cord, AC Power [E] Cord, AC Power [A]	
7 - 2	5350008700	Cord, In-output [US] 5350008600 Cord, In-output [All except US]	
7 - 3	*5534660000	Strain Relief, Cord; 4N-4	
7 - 4	*5534661000	Strain Relief, Cord; 4K-1 [UK]	
	*5534660000	Strain Relief, Cord; 4N-4 [All except UK]	
7 - 5	*5200046100	PCB-105 Assy, dBX	
7 - 6	*5800155700	Panel, Rear	
7 - 7	*5800153901	Bracket, PCB; B	
7 - 8	*5800153801	Bracket, PCB; A	
7 - 9	*5800117801 *5800117901	Plate, In-output; A [All except E] Plate, In-output; B [E]	
7 - 10	*5800154600	Arm, Record	
7 - 11	*5800115200	Spring, Record	
7 - 12	*5800154000	Shaft, Record Arm	
7 - 13	*5200046703 *5200046710	PCB-106 Assy, MAIN [All except E, UK] PCB-106 Assy, MAIN [E, UK]	
7 - 14	*5800154100	Bracket, PCB	
7 - 15	*5800155401	Chassis, R	
7 - 16	5800154800	Button, C	
7 - 17	5800155100	Button, A	
7 - 18	5800155200	Button, B	
7 - 19	*5200047200	PCB-171 Assy, SW	
7 - 20	*5200046800	PCB-127 Assy, VOLUME	
7 - 21	*5800155902	Chassis, Front	
7 - 22	*5800156800	Bracket, Jack	
7 - 23	5296002800	Meter, Peak Level; R	
7 - 24	*5800157101	Escutcheon, Meter	
7 - 25	5296002700	Meter, Peak Level; L	
7 - 26	*5800153100	Cushion, Meter	
7 - 27	5800161301	Counter Assy	
7 - 28	5800044300	Knob, TIMER	
7 - 29	5800119700	Button, POWER	
7 - 30	*5800116100	Foot [All except L]	
7 - 31	*5800155600	Chassis, L [All except L]	
	*5800161900	Chassis Assy, L [L]	
7 - 32	*5800154700	Rod, Joint	
7 - 33	*5800116200	Rod, A	
7 - 34	*5800154300	Bracket, Switch	
7 - 35	*5200047900	PCB-109 Assy, TIMER	
7 - 36	△ 5134122000 △ 5300019200 △ 5300019300 △ 5300019400	Switch, Push; POWER [GE, L] Switch, Push; POWER [J] Switch, Push; POWER [US] Switch, Push; POWER [E, UK, A]	
7 - 37	△ 5052905000 △ 5052906000 △ 5052911000 △ 5267702500 △ 5292002500	Spark Killer, 0.1μF + 120Ω/300V [J] Spark Killer, 0.33μF + 120Ω/250V [US] Spark Killer, 0.033μF + 120Ω/250V [C] Spark Killer, 0.047μF/250V [E, UK, A] Spark Killer, 0.01μF + 300Ω [GE, L]	
7 - 38	△ *5320009300 △ *5320009400 △ *5320009500 △ *5320009600 △ *5320009800	Transformer, Power [J] Transformer, Power [US] Transformer, Power [GE, L] Transformer, Power [E, UK, A] Transformer, Power [C]	
7 - 39	*5200047000	PCB Assy, DIN [E]	
7 - 40	*5800154900	Bracket [GE, L]	
7 - 41	*5200047100	PCB-103 Assy, VOLTAGE SELECTOR [GE, L]	
7 - 42	*5800157800	Cover, SELECTOR PCB [GE, L]	

[US]: U.S.A. [C]: CANADA [GE]: GENERAL EXPORT [E]: EUROPE [UK]: U.K.  
[A]: AUSTRALIA [J]: JAPAN [L]: LIMITED AREA

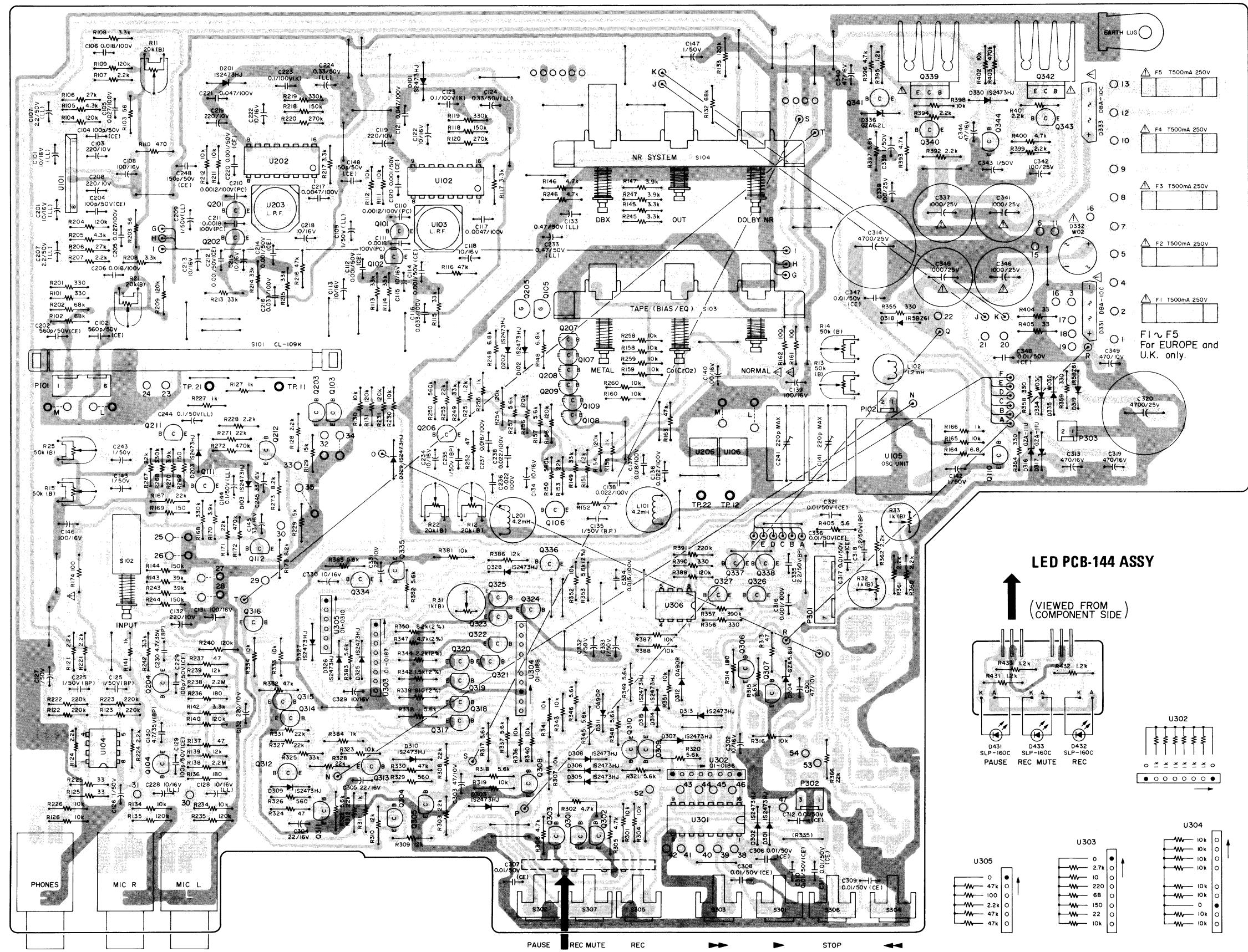
## 7 PC BOARDS AND PARTS LIST

PC Boards shown viewed from foil side except LED PCB ASSY

**BLOCK REPEAT PCB-101 ASSY (V-3RX)**



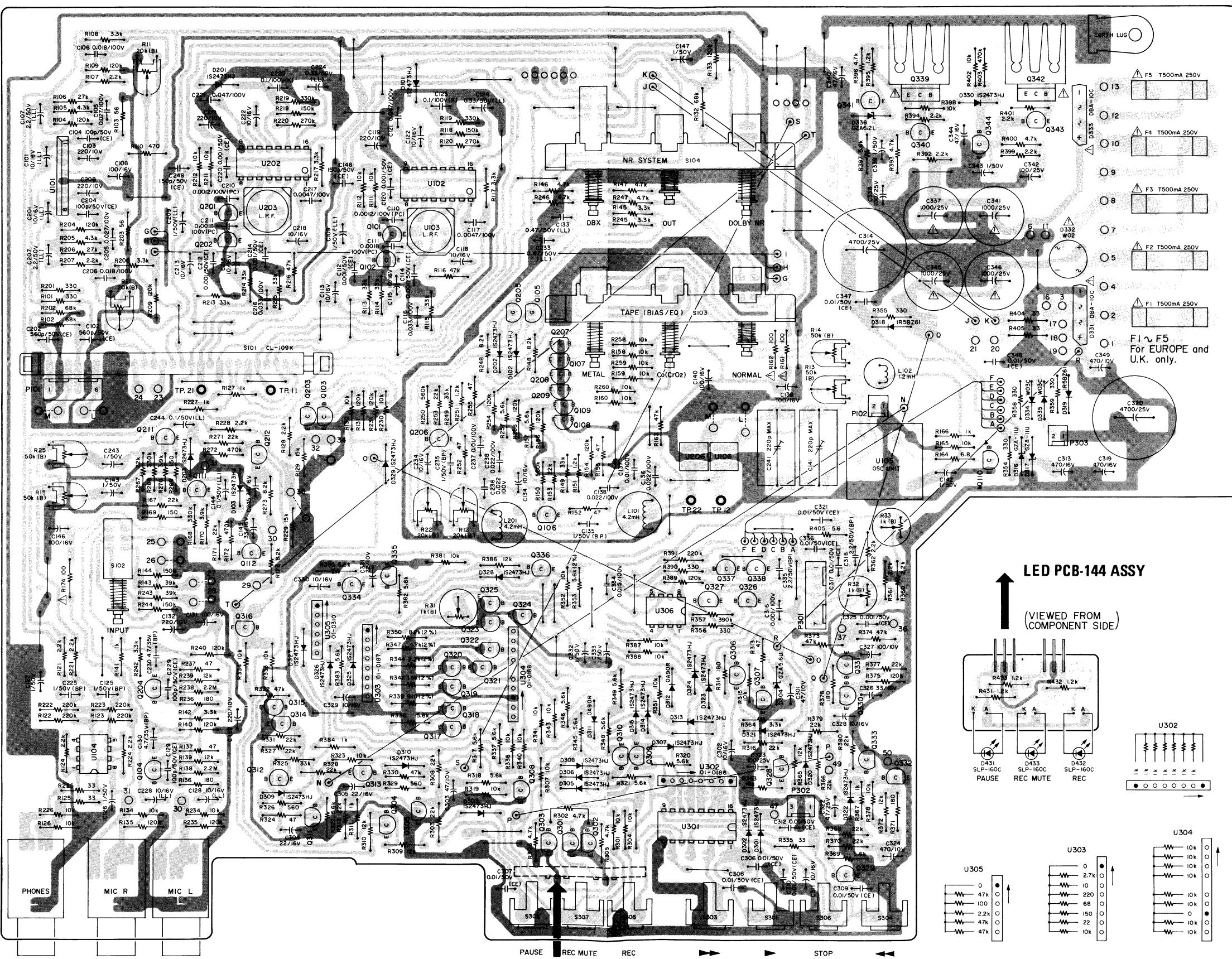
## MAIN PCB-106 ASSY (V-3RX)



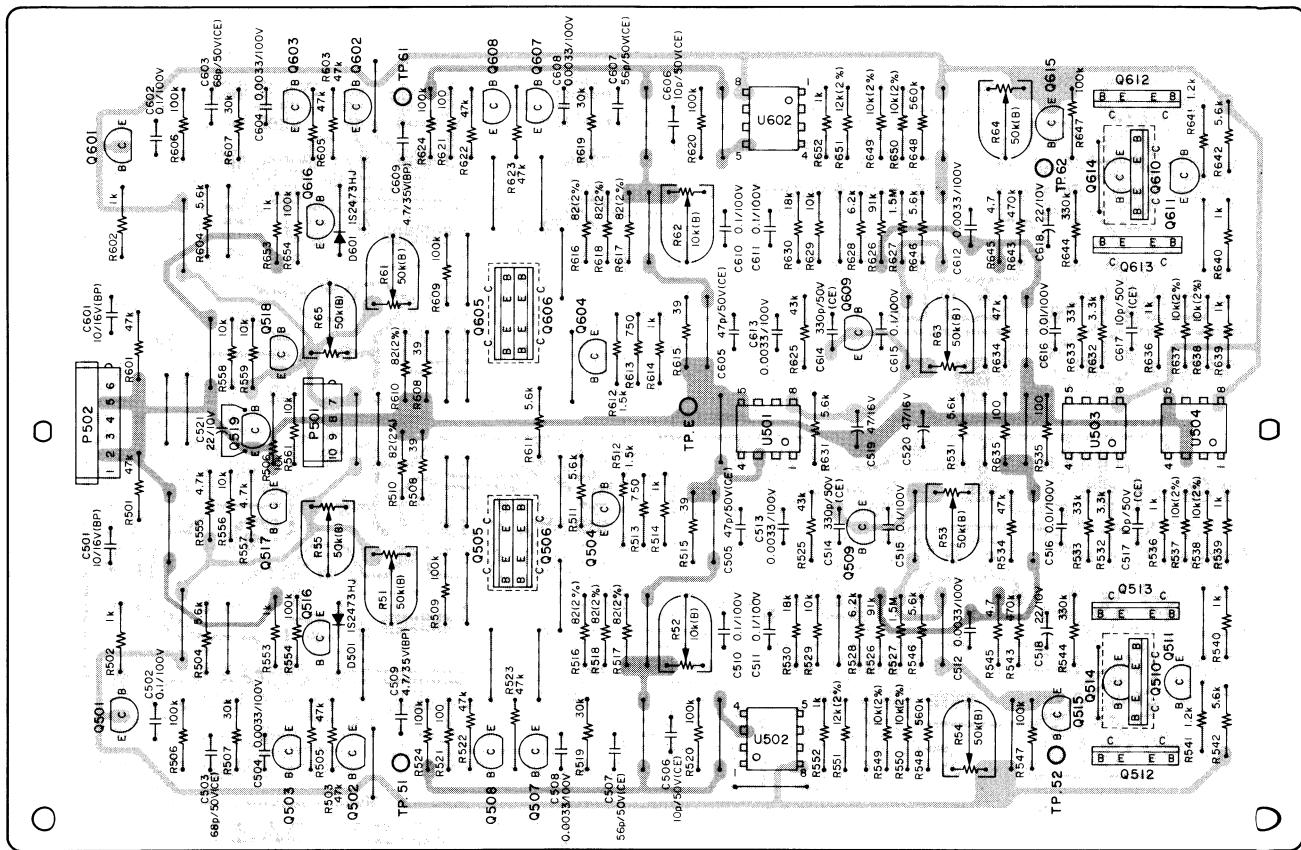
## **V-3RX/V-5RX**

## **V-3RX/V-5RX**

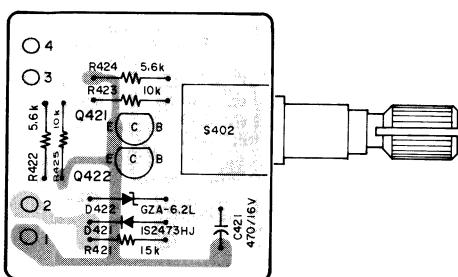
MAIN PCB-106 ASSY (V-5RX)



DBX PCB-105 ASSY



**TIMER PCB-109 ASSY (V-5RX)**



## NOTES

- The colors used on the PCB illustrations have the following significance:
    - : +B power supply circuit
    - : -B power supply circuit
    - : GND
    - : Other
  - Resistor values are in ohms ( $k=1,000$  ohms,  $M=1,000,000$  ohms).
  - Capacitor values are in microfarads ( $p=\text{picofarads}$ ).
    - (LL) : Electrolytic capacitor LL series
    - (CE) : Ceramic
    - (SC) : Polystyrene
    - (PC) : Polypro.
    - (BP) : BipolarAll non-polarized capacitors are  $\pm 5\%$  Mylar unless otherwise noted.
  - Parts marked with this sign are safety critical components.  
They must always be replaced with identical components - refer to the appropriate parts list and ensure exact replacement.

## BLOCK REPEAT PCB-101 ASSY (V-3RX)

REF. NO.	PARTS NO.	DESCRIPTION
	5200047501	PCB-101 Assy
	5210047501	PCB-101
		IC's
U701	5220803200	$\mu$ PD554C
U702~U705	529300900	TD62504P Transistor Array
		TRANSISTORS
Q701	▲5145087000	2SD313E
Q702	5145091000	2SC945AK
Q703, Q704	5145150000	2SA1015GR
Q705, Q706	5145091000	2SC945AK
Q707~Q710	5145150000	2SA1015GR
Q711	5145091000	2SC945AK
		DIODES
D701	5224518100	Zener RD11EB2
D702, D703	5224518000	Zener RD8.2EB3
D704, D705	5143118000	1S2473HJ
D706	5143129000	Zener RD5.6EB
D708~D727	5143118000	1S2473HJ
		CARBON RESISTORS
All resistors are rated $\pm 5\%$ tolerance and $\frac{1}{4}$ watt.		
R701, R702	5183078000	680 $\Omega$
R703	5183074000	470 $\Omega$
R704	5183106000	10k $\Omega$
R705	5183130000	100k $\Omega$
R706	5183118000	33k $\Omega$
R707~R711	5183114000	22k $\Omega$
R712~R715	5183106000	10k $\Omega$
R716, R717	5183130000	100k $\Omega$
R718, R719	5183106000	10k $\Omega$
R720	5183070000	330 $\Omega$
R721, R722	5183082000	1k $\Omega$
R723	5183114000	22k $\Omega$
R724~R740	5183106000	10k $\Omega$
R741~R745	5183114000	22k $\Omega$
R746	5183130000	100k $\Omega$
R747~R754	5183106000	10k $\Omega$
R755	5183082000	1k $\Omega$
R756~R762	5183078000	680 $\Omega$
R763	5183094000	3.3k $\Omega$
R764	5183086000	1.5k $\Omega$
		CAPACITORS
C701	5173037000	Elec. 47 $\mu$ F 25V
C702	5173054000	Elec. 220 $\mu$ F 16V
C703	5173395000	Elec. 0.047 $\mu$ F 50V 10%
C704	5173010000	Elec. 10 $\mu$ F 16V
C705, C706	5172792000	Polyst. 33pF 50V 5%
C707, C708	5170433000	Mylar 0.022 $\mu$ F 100V 5%
C709	5173036000	Elec. 47 $\mu$ F 16V
C710	5172992000	Elec. 1 $\mu$ F 50V
C711~C714	5172336000	Ceramic 0.01 $\mu$ F 50V 10%
		COIL
L701	5286002100	Choke 1.5mH

REF. NO.	PARTS NO.	DESCRIPTION
CONNECTORS		
P701	5336088300	Socket, 3P
P702	5336088400	Socket, 4P
P703	5336088500	Socket, 5P
P704	5336088400	Socket, 4P
P705	5336088500	Socket, 5P
P706	5336088300	Socket, 3P
P707, P708	5336088400	Socket, 4P
P709	5336088300	Socket, 3P
MISCELLANEOUS		
5800004000	Bracket, Transistor	
5033295000	Tube, Insulating	
5033291000	Plate, Insulating	

## MAIN PCB-106 ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	5200048001	PCB-106 Assy [J, US, C, GE, A, L] (V-3RX)
	5200048010	PCB-106 Assy [E, UK] (V-3RX)
	5200046703	PCB-106 Assy [J, US, C, GE, A, L] (V-5RX)
	5200046710	PCB-106 Assy [E, UK] (V-5RX)
	5210046700	PCB-106
		IC's
U101	5147062000	LA3161
U102, U202	5220411400	LM1111CN
U104	5220405000	$\mu$ PC4557C
U301	5147047000	M54410P
U306	5220405000	$\mu$ PC4557C
		TRANSISTORS
Q101, Q201	5042486000	2SC536G
Q102, Q202	5042486000	2SC536G
Q103, Q203	5230775000	2SC2878B
Q104, Q204	5145119000	2SC1844F
Q105, Q205	5145102000	FET 2SK68L
Q106, Q206	5042486000	2SC536G
Q107, Q207	5042486000	2SC536G
Q108, Q208	5042486000	2SC536G
Q109, Q209	5042486000	2SC536G
Q110	5145099000	2SC1741R
Q111, Q211	5042486000	2SC536G
Q112, Q212	5230775000	2SC2878B
Q301~Q303	5145091000	2SC945AK
Q304	5145150000	2SA1015GR
Q305	5145091000	2SC945AK
Q306	5230773800	2SC2655Y
Q307	5145099000	2SC1741R
	5145091000	2SC945AK (V-3RX)
Q308~Q315	5145091000	2SC945AK
Q316	5145150000	2SA1015GR
Q317~Q325	5145091000	2SC945AK
Q326	5230773800	2SC2655Y
Q327	5230014000	2SA1020Y

REF. NO.	PARTS NO.	DESCRIPTION
Q328	5145150000	2SA1015GR (V-5RX)
Q329~Q333	5145091000	2SC945AK (V-5RX)
Q334~Q336	5145091000	2SC945AK
Q337	5230773800	2SC2655Y
Q338	5230014000	2SA1020Y
Q339	△ 5145087000	2SD313E
Q340, Q341	5145091000	2SC945AK
Q342	△ 5145129000	2SB507E
Q343, Q344	5145150000	2SA1015GR
<b>DIODES</b>		
D101, D201	5143118000	1S2473HJ
D102, D202	5143118000	1S2473HJ
D103, D203	5143118000	1S2473HJ
D301~D303	5143118000	1S2473HJ
D304	5224519600	Zener GZA5.6U
D305~D310	5143118000	1S2473HJ
D311, D312	5224012800	0A90R
D313~D315	5143118000	1S2473HJ
D316, D317	5224521000	Zener GZA11U
D318, D319	5224014000	1R5BZ61
D320~D324	5143118000	1S2473HJ (V-5RX)
D325~D330	5143118000	1S2473HJ
D331	△ 5224013600	DBA10C
D332	△ 5228005000	W02
D333	5224013600	DBA10C
D334, D335	△ 5143315000	W03C
D336	5224519700	Zener GZA6.2L
<b>CARBON RESISTORS</b>		
All resistors are rated ±5% tolerance and 1/4 watt unless otherwise noted.		
R101, R201	5183077000	620Ω
R102, R202	5183126000	68kΩ
R103, R203	5183052000	56Ω
R104, R204	5183132000	120kΩ
R105, R205	5183097000	4.3kΩ
R106, R206	5183116000	27kΩ
R107, R207	5183090000	2.2kΩ
R108, R208	5183094000	3.3kΩ
R109, R209	5183132000	120kΩ
R110	5183074000	470Ω
R111, R211	5183106000	10kΩ
R112, R212	5183106000	10kΩ
R113, R213	5183118000	33kΩ
R114, R214	5183118000	33kΩ
R115, R215	5183118000	33kΩ
R116, R216	5183122000	47kΩ
R117, R217	5183094000	3.3kΩ
R118, R218	5183134000	150kΩ
R119, R219	5183142000	330kΩ
R120, R220	5183140000	270kΩ
R121, R221	5183090000	2.2kΩ
R122, R222	5183138000	220kΩ
R123, R223	5183138000	220kΩ
R124, R224	5183090000	2.2kΩ
R125, R225	5183046000	33Ω
R126, R226	5183106000	10kΩ
R127, R227	5183082000	1kΩ
R128, R228	5183090000	2.2kΩ
R129, R229	5183110000	15kΩ
R130, R230	5183106000	10kΩ

REF. NO.	PARTS NO.	DESCRIPTION
R131, R231	5183132000	120kΩ
R132, R232	5183126000	68kΩ
R133, R233	5183132000	120kΩ
R134, R234	5183106000	10kΩ
R135, R235	5183132000	120kΩ
R136, R236	5183064000	180Ω
R137, R237	5183050000	47Ω
R138, R238	5183162000	2.2MΩ
R139, R239	5183108000	12kΩ
R140, R240	5183132000	120kΩ
R141	5183082000	1kΩ
R142, R242	5183094000	3.3kΩ
R143, R243	5183120000	39kΩ
R144, R244	5183134000	150kΩ
R145, R245	5183094000	3.3kΩ
R146, R246	5183098000	4.7kΩ
R147, R247	5183096000	3.9kΩ
	5183098000	(V-3RX)
R148, R248	5183102000	4.7kΩ
	5183104000	(V-3RX)
	5183104000	(V-5RX)
R149, R249	5183118000	33kΩ
R150, R250	5183148000	560Ω
R151, R252	5183084000	1.2kΩ
R152, R252	5183050000	47Ω
R153, R253	5183114000	22kΩ
R154, R254	5183132000	120kΩ
R155, R255	5183082000	1kΩ
	5183050000	(V-3RX)
R156, R256	5183132000	120kΩ
R157, R257	5183100000	5.6kΩ
R158, R258	5183106000	10kΩ
R159, R259	5183106000	10kΩ
R160, R260	5183106000	10kΩ
R161	△ 5184249000	100Ω
R162	△ 5184249000	100Ω
	Nonflammable	
R163	5183122000	47kΩ
R164	5183030000	6.8Ω
R165	5183106000	10kΩ
R166	5183082000	1kΩ
R167, R267	5183114000	22kΩ
R168, R268	5183142000	330kΩ
R169, R269	5183062000	150Ω
R170, R270	5183096000	3.9kΩ
R171, R271	5183114000	22kΩ
R172, R272	5183146000	470kΩ
R173, R273	5183104000	8.2kΩ
R174	△ 5184249000	100Ω
	Nonflammable	
R301	5183106000	10kΩ
R302	5183098000	4.7kΩ
R303	5183114000	22kΩ
R304	5183106000	10kΩ
R305, R306	5183098000	4.7kΩ
R307	5183106000	10kΩ
R308	5183114000	22kΩ
R309, R310	5183108000	12kΩ
R311	5183082000	1kΩ
R312	5183114000	22kΩ
R313	5183042000	22Ω
	5183050000	(V-3RX)
R314	5183064000	180Ω
R315	5183100000	5.6kΩ
	5183106000	(V-5RX)

REF. NO.	PARTS NO.	DESCRIPTION
R316	5183106000	10kΩ (V-3RX)
	5183114000	22kΩ (V-5RX)
R317, R318	5183100000	5.6kΩ
R319	5183106000	10kΩ
R320~R322	5183100000	5.6kΩ
R323	5183106000	10kΩ
R324	5183050000	47Ω
R325	5183118000	33kΩ
R326	5183076000	560Ω
R327, R328	5183114000	22kΩ
R329	5183076000	560Ω
R330	5183122000	47kΩ
R331	5183114000	22kΩ
R332	5183122000	47kΩ
R333, R334	5183106000	10kΩ
R335	5181763000	Jumper (V-3RX)
	5183046000	33Ω (V-5RX)
R336	5183106000	10kΩ
R337, R338	5183100000	5.6kΩ
R339	5185091000	910Ω 2%
R340	5183106000	10kΩ
R341	5183106000	10kΩ
R342	5185096000	1.5kΩ 2%
R343	5183106000	10kΩ
R344	5185100000	2.2kΩ 2%
R345, R346	5183100000	5.6kΩ
R347	5185108000	4.7kΩ 2%
R348, R349	5183100000	5.6kΩ
R350	5185114000	8.2kΩ 2%
R351, R352	5183106000	10kΩ
R353	5185110000	5.6kΩ 2%
R354~R356	5183070000	330Ω
R357	5183144000	390kΩ
R358, R359	5183070000	330Ω
R360~R362	5183090000	2.2kΩ
R363	5183112000	18kΩ (V-5RX)
R364	5183094000	3.3kΩ (V-5RX)
R365	5183108000	12kΩ (V-5RX)
R366	5183114000	22kΩ
R367	5183082000	1kΩ (V-5RX)
R368	5183114000	22kΩ (V-5RX)
R369	5183100000	5.6kΩ (V-5RX)
R370	5183114000	22kΩ (V-5RX)
R371	5183064000	180Ω (V-5RX)
R372	5183108000	12kΩ (V-5RX)
R373, R374	5183122000	47kΩ (V-5RX)
R375	5183132000	120kΩ (V-5RX)
R376	5183064000	180Ω (V-5RX)
R377	5183114000	22kΩ (V-5RX)
R378	5183106000	10kΩ (V-5RX)
R379, R380	5183114000	22kΩ (V-5RX)
R381	5183106000	10kΩ
R382, R383	5183100000	5.6kΩ
R384	5183082000	1kΩ
R385	5183100000	5.6kΩ
R386	5183108000	12kΩ
R387, R388	5183106000	10kΩ
R389	5183132000	120kΩ
R390	5183070000	330Ω
R391	5183138000	220kΩ
R392	5183090000	2.2kΩ

REF. NO.	PARTS NO.	DESCRIPTION
R393	5183098000	4.7kΩ
R394	5183090000	2.2kΩ
R395	5183084000	1.2kΩ
R396	5183098000	4.7kΩ
R397	5183100000	5.6kΩ
R398	5183106000	10kΩ
R399	5183090000	2.2kΩ
R400	5183098000	4.7kΩ
R401	5183090000	2.2kΩ
R402	5183106000	10kΩ
R403	5183146000	470kΩ
R404, R405	5183046000	33Ω
R406	5183028000	5.6Ω
<b>CAPACITORS</b>		
C101, C201	5260221910	Elec. 10μF 16V
C102, C202	5172321000	Ceramic 560pF 50V 10%
C103, C203	5173053000	Elec. 220μF 10V
C104, C204	5172312000	Ceramic 100pF 50V 10%
C105, C205	5170435000	Mylar 0.027μF 100V 5%
C106, C206	5170431000	Mylar 0.018μF 100V 5%
C107, C207	5260221310	Elec. 2.2μF 50V
C108	5173045000	Elec. 100μF 16V
C109, C209	5260221110	Elec. 1μF 50V
C110, C210	5173733000	Polypro. 0.0012μF 100V 5%
C111, C211	5173735000	Polypro. 0.0018μF 100V 5%
C112, C212	5172324000	Ceramic 0.001μF 50V 10%
C113, C213	5173010000	Elec. 10μF 16V
C114, C214	5172324000	Ceramic 0.001μF 50V 10%
C115, C215	5173010000	Elec. 10μF 16V
C116, C216	5170437000	Mylar 0.033μF 100V 5%
C117, C217	5170417000	Mylar 0.0047μF 100V 5%
C118, C218	5173010000	Elec. 10μF 16V
C119, C219	5173053000	Elec. 220μF 10V
C120, C220	5172324000	Ceramic 0.001μF 50V 10%
C121, C221	5170441000	Mylar 0.047μF 100V 5%
C122, C222	5173010000	Elec. 10μF 16V
C123, C223	5170519000	Mylar 0.1μF 100V 10%
C124, C224	5260220810	Elec. 0.33μF 50V
C125, C225	5260065610	Elec. 1μF 50V BP
C126	5172992000	Elec. 1μF 50V
C127	5172992000	Elec. 1μF 50V
C128, C228	5260221910	Elec. 10μF 16V
C129, C229	5172312000	Ceramic 100pF 50V 10%
C130, C230	5260066510	Elec. 4.7μF 35V BP
C131	5173045000	Elec. 100μF 16V
C132, C232	5173053000	Elec. 220μF 10V
C133, C233	5260220910	Elec. 0.47μF 50V
C134, C234	5173010000	Elec. 10μF 16V
C135, C235	5260065610	Elec. 1μF 50V BP
C136, C236	5170433000	Mylar 0.022μF 100V 5%
C137, C237	5170431000	Mylar 0.018μF 100V 5% (V-3RX)
	5170425000	Mylar 0.01μF 100V 5% (V-5RX)
C138, C238	5170433000	Mylar 0.022μF 100V 5%
C139	5173045000	Elec. 100μF 16V
C140	5173045000	Elec. 100μF 16V
C142	5172992000	Elec. 1μF 50V
C143, C243	5172992000	Elec. 1μF 50V

REF. NO.	PARTS NO.	DESCRIPTION			
C144, C244	5260220510	Elec.	0.1μF	50V	
C145, C245	5173027000	Elec.	33μF	16V	
C146	5173045000	Elec.	100μF	16V	
C147	5172992000	Elec.	1μF	50V	
C148, C248	5172314000	Ceramic	150pF	50V 10% (V-5RX)	
C301	5173035000	Elec.	47μF	10V	
C302	5173010000	Elec.	10μF	16V	
C303	5173035000	Elec.	47μF	10V	
C304, C305	5173018000	Elec.	22μF	16V	
C306~C310	5172336000	Ceramic	0.01μF	50V 10%	
C311	5172336000	Ceramic	0.01μF	50V 10% (V-3RX)	
	5173010000	Elec.	10μF	16V (V-5RX)	
C312	5172336000	Ceramic	0.01μF	50V 10%	
C313	5173072000	Elec.	470μF	16V	
C314	5262001110	Elec.	4700μF	25V	
C315	5172336000	Ceramic	0.01μF	50V 10% (V-3RX)	
C316	5170401000	Mylar	0.001μF	100V 5%	
C317	5172336000	Ceramic	0.01μF	50V 10%	
C318	5260065800	Elec.	2.2μF	50V BP	
C319	5173072000	Elec.	470μF	16V	
C320	5262001110	Elec.	4700μF	25V	
C321	5172336000	Ceramic	0.01μF	50V 10%	
C322	5173037000	Elec.	47μF	25V (V-5RX)	
C323	5173046000	Elec.	100μF	25V (V5RX)	
C324	5173071000	Elec.	470μF	10V (V-5RX)	
C325	5172324000	Ceramic	0.001μF	50V 10% (V-5RX)	
C326	5173027000	Elec.	33μF	16V (V-5RX)	
C327	5173044000	Elec.	100μF	10V (V-5RX)	
C328	5173010000	Elec.	10μF	16V (V-5RX)	
C329, C330	5173010000	Elec.	10μF	16V	
C331	5173017000	Elec.	22μF	10V	
C332, C333	5172992000	Elec.	1μF	50V	
C334	5170429000	Mylar	0.015μF	100V 5%	
C335	5260065810	Elec.	2.2μF	50V BP	
C336	5172336000	Ceramic	0.01μF	50V 10%	
C337	△5173082000	Elec.	1000μF	25V	
C338	5173046000	Elec.	100μF	25V	
C339	5172992000	Elec.	1μF	50V	
C340	5173036000	Elec.	47μF	16V	
C341	△5173082000	Elec.	1000μF	25V	
C342	5173046000	Elec.	100μF	25V	
C343	5172992000	Elec.	1μF	50V	
C344	5173036000	Elec.	47μF	16V	
C345, C346	△5173082000	Elec.	1000μF	25V	
C347, C348	5172336000	Ceramic	0.01μF	50V 10%	
C349	5173071000	Elec.	470μF	10V (V-5RX)	
C350	5172336000	Ceramic	0.01μF	50V 10%	
<b>VARIABLE RESISTORS</b>					
R11, R21	5280003602	Semi-fixed	20kΩ(B)		
R12, R22	5280003602	Semi-fixed	20kΩ(B)		
R13	5280004002	Semi-fixed	50kΩ(B)		

REF. NO.	PARTS NO.	DESCRIPTION
R14	5280004002	Semi-fixed 50kΩ(B)
R15, R25	5280004002	Semi-fixed 50kΩ(B)
R31~R33	5280004002	Semi-fixed 50kΩ(B)
<b>TRIMMER CAPACITORS</b>		
C141, C241	5267205300	30pF – 210pF
<b>COILS</b>		
L101, L201	5286000100	Choke 4.2mH(Variable)
L102	5160151000	Choke 1.2mH(Fixed)
<b>SWITCHES</b>		
S101	5131043000	Slide 9-2
S102	5300022500	Push
S103	5300022400	Push, 3-gang; S
S104	5300022300	Push, 3-gang; N
S301~S307	5302100500	Tact
<b>MISCELLANEOUS</b>		
U103, U203	5292802600	Filter, Low-pass
U105	5292200900	OSC Unit, 100kHz
U106, U206	5286000200	Trap Coil, 100kHz
U302	5293000300	Resistor Array
U303	5293000400	Resistor Array
U304	5293000500	Resistor Array
U305	5293000800	Resistor Array
P101	5122130000	Connector Plug, 6P (WHT)
P102	5122126000	Connector Plug, 2P (WHT)
P301	5122131000	Connector Plug, 7P (WHT)
P302	5122127000	Connector Plug, 3P (WHT)
P303	5122126000	Connector Plug, 2P (WHT)
F1~F5	5041138000	Fuse, T500mA 250V [E, UK]
	5142087000	Holder, Fuse (10 used) [E, UK]
	5553132000	Heatsink
	5330007700	Jack, MIC
	5330007800	Jack, PHONES
	5555590000	Plate, GND; A

**DBX PCB-105 ASSY**

REF. NO.	PARTS NO.	DESCRIPTION
	5200046100	PCB-105 Assy
	5210046100	PCB-105
	<b>IC's</b>	
U501	5220407100	TL082CP
U502, U602	5220406700	RC4558P
U503	5220407100	TL082CP
U504	5220406700	RC4558P
<b>TRANSISTORS</b>		
Q501, Q601	5145151000	2SC1815GR
Q502, Q602	5230775000	2SC2878B
Q503, Q603	5230775000	2SC2878B
Q504, Q604	5145151000	2SC1815GR
Q505, Q605	5232250300	μPA75VF (Pair)

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[A]: AUSTRALIA [J]: JAPAN [L]: LIMITED AREA

REF. NO.	PARTS NO.	DESCRIPTION
Q506, Q606	5232250100	$\mu$ PA74VF (Pair)
Q507, Q607	5230775000	2SC2878B
Q508, Q608	5230775000	2SC2878B
Q509, Q609	5145151000	2SC1815GR
Q510, Q610	5232250100	$\mu$ PA74VF (Pair)
Q511, Q611	5145151000	2SC1815GR
Q512, Q612	5232250100	$\mu$ PA74VF
Q513, Q613	5232250100	$\mu$ PA74VF
Q514, Q614	5230774300	2SC1845F
Q515, Q615	5145150000	2SA1015GR
Q516, Q616	5145102000	FET 2SK68AL
Q517	5145151000	2SC1815GR
Q518	5145150000	2SA1015GR
Q519	5145151000	2SC1815GR
<b>DIODES</b>		
D501, D601	5143118000	1S2473HJ
<b>CARBON RESISTORS</b>		
All resistors are rated $\pm 5\%$ tolerance and $\frac{1}{4}$ watt unless otherwise noted.		
R501, R601	5183122000	47k $\Omega$
R502, R602	5183082000	1k $\Omega$
R503, R603	5183122000	47k $\Omega$
R504, R604	5183100000	5.6k $\Omega$
R505, R605	5183122000	47k $\Omega$
R506, R606	5183130000	100k $\Omega$
R507, R607	5183117000	30k $\Omega$
R508, R608	5183048000	39 $\Omega$
R509, R609	5183130000	100k $\Omega$
R510, R610	5185066000	82 $\Omega$ 2%
R511, R611	5183100000	5.6k $\Omega$
R512, R612	5183086000	1.5k $\Omega$
R513, R613	5183079000	750 $\Omega$
R514, R614	5183082000	1k $\Omega$
R515, R615	5183048000	39 $\Omega$
R516, R616	5185066000	82 $\Omega$ 2%
R517, R617	5185066000	82 $\Omega$ 2%
R518, R618	5185066000	82 $\Omega$ 2%
R519, R619	5183117000	30k $\Omega$
R520, R620	5183130000	100k $\Omega$
R521, R621	5183058000	100 $\Omega$
R522, R622	5183122000	47k $\Omega$
R523, R623	5183122000	47k $\Omega$
R524, R624	5183130000	100k $\Omega$
R525, R625	5183121000	43k $\Omega$
R526, R626	5183129000	91k $\Omega$
R527, R627	5183158000	1.5M $\Omega$
R528, R628	5183101000	6.2k $\Omega$
R529, R629	5183106000	10k $\Omega$
R530, R630	5183112000	18k $\Omega$
R531, R631	5183100000	5.6k $\Omega$
R532, R632	5183094000	3.3k $\Omega$
R533, R633	5183118000	33k $\Omega$
R534, R634	5183122000	47k $\Omega$
R535, R635	5183058000	100 $\Omega$
R536, R636	5183082000	1k $\Omega$
R537, R637	5185116000	10k $\Omega$
R538, R638	5185116000	10k $\Omega$
R539, R639	5183082000	1k $\Omega$
R540, R640	5183082000	1k $\Omega$

REF. NO.	PARTS NO.	DESCRIPTION
R541, R641	5183084000	1.2k $\Omega$
R542, R642	5183100000	5.6k $\Omega$
R543, R643	5183146000	470k $\Omega$
R544, R644	5183142000	330k $\Omega$
R545, R645	5183026000	4.7 $\Omega$
R546, R646	5183100000	5.6k $\Omega$
R547, R647	5183130000	100k $\Omega$
R548, R648	5183148000	560k $\Omega$
R549, R649	5185116000	10k $\Omega$
R550, R650	5185116000	10k $\Omega$
R551, R651	5185118000	12k $\Omega$
R552, R652	5183082000	1k $\Omega$
R553, R653	5183082000	1k $\Omega$
R554, R654	5183130000	100k $\Omega$
R555	5183098000	4.7k $\Omega$
R556	5183106000	10k $\Omega$
R557	5183098000	4.7k $\Omega$
R558	5183106000	10k $\Omega$
R559	5183106000	10k $\Omega$
R560	5183106000	10k $\Omega$
R561	5183106000	10k $\Omega$
<b>CAPACITORS</b>		
C501, C601	5260067010	Elec. 10 $\mu$ F 16V BP
C502, C602	5263162213	Meta. 0.1 $\mu$ F 50V 5%
C503, C603	5172310000	Ceramic 68pF 50V 10%
C504, C604	5170413000	Mylar 0.0033 $\mu$ F 100V 5%
C505, C605	5172308000	Ceramic 47pF 50V 10%
C506, C606	5172300000	Ceramic 10pF 50V 10%
C507, C607	5172309000	Ceramic 56pF 50V 10%
C508, C608	5170413000	Mylar 0.0033 $\mu$ F 100V 5%
C509, C609	5260066510	Elec. 4.7 $\mu$ F 35V BP
C510, C610	5263162200	Meta. 0.1 $\mu$ F 50V 5%
C511, C611	5263162213	Meta. 0.1 $\mu$ F 50V 5%
C512, C612	5170413000	Mylar 0.0033 $\mu$ F 100V 5%
C513, C613	5170413000	Mylar 0.0033 $\mu$ F 100V 5%
C514, C614	5172318000	Ceramic 330pF 50V 10%
C515, C615	5263162213	Meta. 0.1 $\mu$ F 50V 5%
C516, C616	5170425000	Mylar 0.01 $\mu$ F 100V 5%
C517, C617	5172300000	Ceramic 10pF 50V 10%
C518, C618	5260227510	Elec. 22 $\mu$ F 10V
C519	5173036000	Elec. 47 $\mu$ F 16V
C520	5173036000	Elec. 47 $\mu$ F 16V
C521	5173017000	Elec. 22 $\mu$ F 10V
<b>VARIABLE RESISTORS</b>		
R51, R61	5150094000	Semi-fixed 50k $\Omega$ (B)
R52, R62	5150092000	Semi-fixed 10k $\Omega$ (B)
R53, R63	5150094000	Semi-fixed 50k $\Omega$ (B)
R54, R64	5150094000	Semi-fixed 50k $\Omega$ (B)
R55, R65	5150094000	Semi-fixed 50k $\Omega$ (B)
<b>MISCELLANEOUS</b>		
P501	5336088400	Connector Socket, 4P
P502	5336088600	Connector Socket, 6P
	5800140700	Clip, Transistor
	5544750000	Pin, TP

**LED PCB-144 ASSY**

REF. NO.	PARTS NO.	DESCRIPTION
	5200046900	PCB-144 Assy
	5210046900	PCB-144
D431~D433	5225007300	LED SLP160C
R431~R433	5183084000	Carbon Res. 1.2kΩ 1/4W 5%
	5122403000	Pin, Connecting
	5800158300	Holder, LED

**TIMER PCB-109 ASSY (V-5RX)**

REF. NO.	PARTS NO.	DESCRIPTION
	5200047900	PCB-109 Assy
	5210047900	PCB-109
<b>TRANSISTORS</b>		
Q421, Q422	5145091000	2SC945AK
<b>DIODES</b>		
D421	5143118000	1S2473HJ
D422	5224519700	Zener GZA6.2L
<b>CARBON RESISTORS</b>		
All resistors are rated ±5% tolerance and 1/4 watt.		
R421	5183110000	15kΩ
R422	5183100000	5.6kΩ
R423	5183106000	10kΩ
R424	5183100000	5.6kΩ
R425	5183106000	10kΩ
<b>CAPACITOR</b>		
C421	5173071000	Elec. 470μF 10V
S402	5301202800	Switch, Rotary; 2-3

**TIMER PCB-110 ASSY (V-3RX) (PC Board Omitted.)**

REF. NO.	PARTS NO.	DESCRIPTION
	5200047600	PCB-110 Assy
	5210047600	PCB-110
	5301202800	Switch, Rotary; 2-3

**COUNTER PCB-102 ASSY (V-3RX) (PC Board Omitted.)**

REF. NO.	PARTS NO.	DESCRIPTION
	5200047300	PCB-102 Assy
	5210047300	PCB-102
	5225007400	LED SL-1405-20
	6051083000	Switch, Tact

**VOLUME PCB-127 (PC Board Omitted.)**

REF. NO.	PARTS NO.	DESCRIPTION
	5200046800	PCB-127 Assy
	5210046800	PCB-127
R16	5283503002	Var. Resistor

**SW PCB-172 ASSY (V-3RX) (PC Board Omitted.)**

REF. NO.	PARTS NO.	DESCRIPTION
	5200047700	PCB-172 Assy
	5210047700	PCB-172
	5301202800	Switch, Rotary; 2-3

**VOLTAGE SELECTOR PCB-103 ASSY [E, L] (PC Board Omitted.)**

REF. NO.	PARTS NO.	DESCRIPTION
	5200047100	PCB-103 Assy
	5210047100	PCB-103
	5555062000	Plate, Selector; A

**SENSOR PCB-109 ASSY (V-3RX) (PC Board Omitted.)**

REF. NO.	PARTS NO.	DESCRIPTION
	5200047801	PCB-109 Assy
	5210047800	PCB-109
E1, E2	5228700200	IC TL170C

**REED SW PCB-171 ASSY (V-5RX) (PC Board Omitted.)**

REF. NO.	PARTS NO.	DESCRIPTION
	5200047200	PCB-171 Assy
	5210047200	PCB-171
S403	5138006000	Switch, Reed
	5800156900	Cushion, Rubber

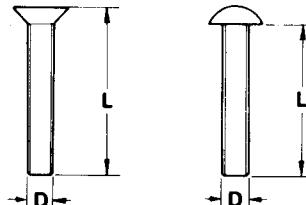
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[A]: AUSTRALIA [J]: JAPAN [L]: LIMITED AREA

**ASSEMBLING HARDWARE CODING LIST**

All screws conform to ISO standards, and have crossrecessed heads, unless otherwise noted.  
 ISO screws have the head inscribed with a point as in the figure to the right.


**FOR EXAMPLE:**
**B M 3 x 6**

Length in mm (L)  
 Diameter in mm (D) \*  
 Metric System  
 Nomenclature



\* Inner dia. for washers and nuts

	<i>Code</i>	<i>Name</i>	<i>Type</i>
<b>MACHINE SCREW</b>	<b>R</b>	Round Head Screw	
	<b>P</b>	Pan Head Screw	
	<b>T</b>	Stove Head Screw (Truss)	
	<b>B</b>	Binding Head Screw	
	<b>F</b>	Flat Countersunk Head Screw	
	<b>O</b>	Oval Countersunk Head Screw	
<b>WOOD SCREW</b>	<b>RW</b>	Round Head Wood Screw	
<b>TAPTITE SCREW</b>	<b>PTT</b>	Pan Head Taptite Screw	
	<b>WTT</b>	Washer Head Taptite Screw	
<b>SEMS SCREW</b>	<b>BSA</b>	Binding Head SEMS Screw(A Type)	
	<b>BSB</b>	Binding Head SEMS Screw(B Type)	
	<b>BSF</b>	Binding Head SEMS Screw(F Type)	
	<b>PSA</b>	Pan Head SEMS Screw(A Type)	
	<b>PSB</b>	Pan Head SEMS Screw(B Type)	

	<i>Code</i>	<i>Name</i>	<i>Type</i>
<b>TAPPING SCREW</b>	<b>BTA</b>	Binding Head Tapping Screw(A Type)	
	<b>BTB</b>	Binding Head Tapping Screw(B Type)	
	<b>RTA</b>	Round Head Tapping Screw(A Type)	
	<b>RTB</b>	Round Head Tapping Screw(B Type)	
<b>SETSCREW</b>	<b>SF</b>	Hex Socket Setscrew(Flat Point)	
	<b>SC</b>	Hex Socket Setscrew(Cup Point)	
	<b>SS</b>	Slotted Socket Setscrew(Flat Point)	
<b>WASHER</b>	<b>E</b>	E-Ring (Retaining Washer)	
	<b>W</b>	Flat Washer(Plain)	
	<b>SW</b>	Lock Washer(Spring)	
	<b>LWI</b>	Lock Washer (Internal Teeth)	
	<b>LWE</b>	Lock Washer (External Teeth)	
	<b>TW</b>	Trim Washer (Countersunk)	
<b>NUT</b>	<b>N</b>	Hex Nut	

# **V-3RX/V-5RX**

**TEAC**<sup>®</sup>

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